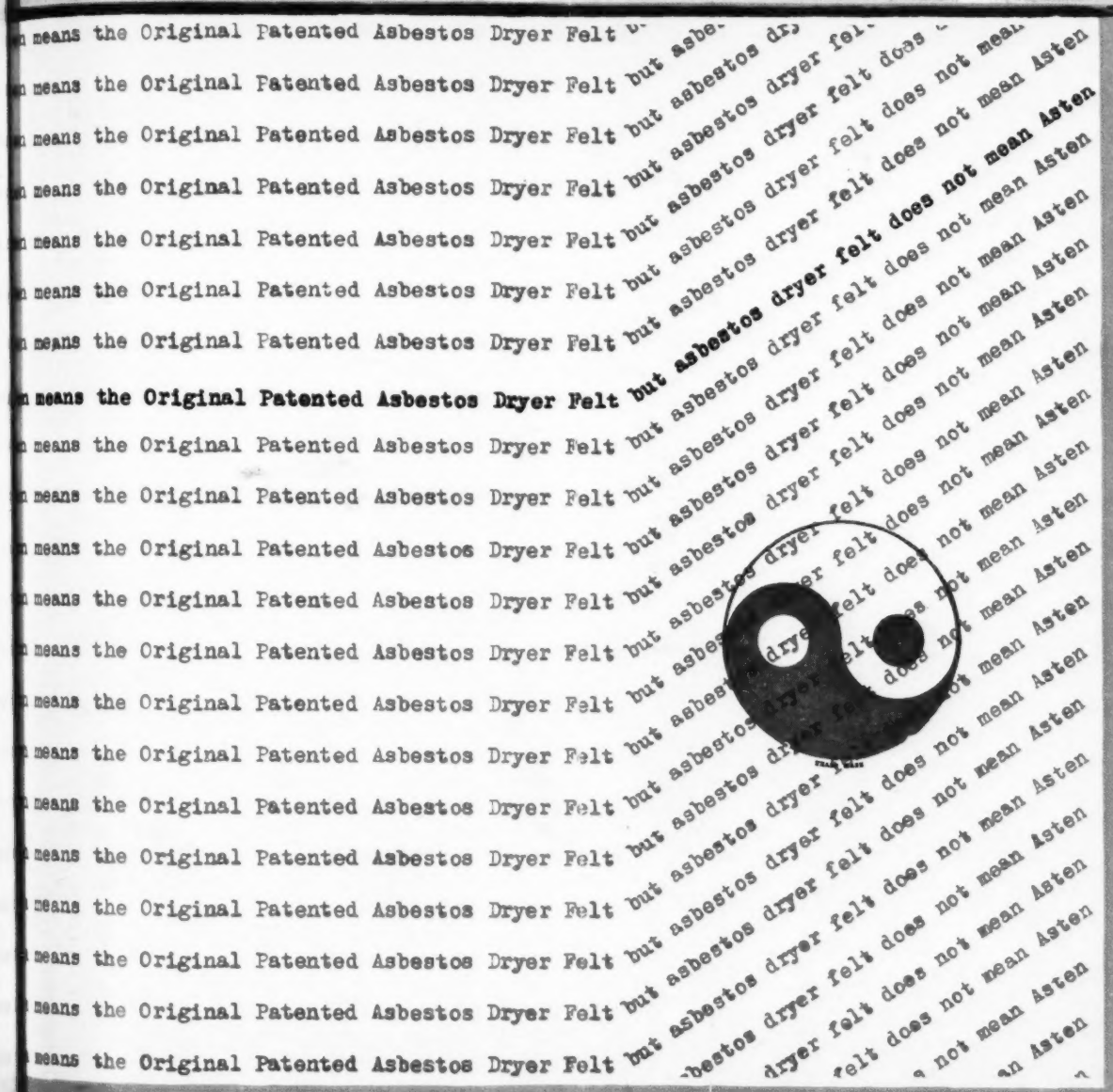
# PAPER TRADE JOURNAL

THE INTERNATIONAL WEEKLY OF THE PAPER AND PULP INDUSTRY AND THE PIONEER PUBLICATION IN ITS FIELD




Nov. 10 1938

Vol. CVII
No. 19

LIBRARY
UNIVERSITY OF WASHINGTON
SEATTLE

# ONE TON PER MINUTE

● Loading a ton per minute is fast work. It's the regular schedule, though, of this Baker Fork Truck at one large northwestern pulp mill. Yet this is but one of the ways Baker Trucks are saving time and money in Paper Mills.

Your handling costs, too, can be substantially lowered with Bakers. Get in touch with the Baker Material Handling Engineer. His broad experience covers savings made in many plants. He will estimate in advance the savings possible in your own plant under your own working conditions. Write today. INDUSTRIAL TRUCK DIVISION *of the Baker-Raulang Co.,* 2162 West 25th St., Cleveland, Ohio.

OLDEST MANUFACTURER
Baker
TRADE-MARK REG. U. S. PAT. OFF.
OF ELECTRIC VEHICLES

POWER INDUSTRIAL TRUCKS FOR EVERY PURPOSE


Entered as second class matter at the Post Office at East Stroudsburg, Pa., under the Act of Congress of March 3, 1879. Published every Thursday by the Lockwood Trade Journal Co., at 34 N. Crystal St., East Stroudsburg, Pa. Executive and Editorial office: 15 W. 47th St., New York, N. Y. Domestic subscription U. S. and possessions, $4.00 per year.

# PAPER TRADE JOURNAL

THE INTERNATIONAL WEEKLY OF THE PAPER AND PULP INDUSTRY AND THE PIONEER PUBLICATION IN ITS FIELD

Published Every Thursday by the LOCKWOOD TRADE JOURNAL CO., Inc.

Executive and Editorial Offices: 15 West 47th Street, N. Y. C.
Western Rep.—H. K. Vinton, 123 W. Madison St., Chicago, Ill.


The Contents of this Publication are Copyrighted

## TABLE OF CONTENTS


Canadian Newsprint Priced at $50 Per Ton .. 15
Paper Industry to Ascertain Unemployment .. 16
J. L. Ober Goes to Chester Plant ..... 18
Pay Increase Announced at Canton ..... 18
To Expand Mobile Mill ..... 18
Newsprint $48 to $50 Ton ..... 18
Finds Business in U. S. Improved ..... 18
News of the Wisconsin Paper Industry ..... 21
Smith-Scharff Have Package Exhibit ..... 21
Chicago Sees Improvement After Election .... 22
How to Meter Steam ..... 22
Scott Paper Co. Gets Unique Publicity ..... 23
Financial News of Pulp and Paper Industry .. 24
Bartgis Bros. Co. Makes Good Report ..... 24
New Plan for Eastern Mfg. Co. ..... 24
I. P. & P. Co. Reports Smaller Profit ..... 25
Obituary ..... 26
Bogus Club Annual Dinner ..... 26
Wrapping Paper Market Improved ..... 26
New TAPPI Members ..... 28
To Hold Graphic Arts Exposition ..... 28
Government Paper Bids ..... 30
TAPPI Notes ..... 30
Philadelphia Trade News ..... 30
Maintaining Pulpwood Forests ..... 30
Construction News ..... 32
**Editorial** ..... **36**
Production Ratio Report ..... 37
J. J. Herb Honored ..... 37

**Technical Section**
Review of the Paper Industry Literature .... 39
Trends in the Waste Paper Industry ..... 40
Sorption of Water Vapor by Papermaking Materials ..... 45
Imports of Paper and Paper Stock ..... 51
**New York Market Review** ..... **53**
**Miscellaneous Markets** ..... **54**
**Market Quotations** ..... **56**


The PAPER TRADE JOURNAL is indexed in Industrial Arts Index

Copyright, 1938, by the Lockwood Trade Journal Co., Inc.

# ELIXMAN

C A P S

Straight wound paper cores made in sizes from 2" to 10" inside diameter with any thickness wall required.

Long draw protected slot caps of heavy gauge steel in all standard sizes.

Heavy duty caps with reenforced square hole. This new patented feature of reenforcement gives added strength and durability.

C O R E S

**Samples of caps or cores will be gladly submitted.**

**ELIXMAN PAPER CORE COMPANY, INC.**

**CORINTH, N. Y.**

# AND COMMUNICATION METHODS HAVE CHANGED A LOT TOO!

THE improvement in Bell System telephone instruments, over the years, is easy to see. Just as great, but not so obvious, has been the improvement in business applications of telephone and related services.

Are you sure you're *using* your modern telephone service in the modern manner? Are you familiar with the many different usages alert executives have developed? Do you know the advantages of related services — such as private lines and Teletypewriter Exchange Service?

Check over your communication set-up with the help of a Bell System representative. Together, you may uncover new efficiencies or unsuspected savings. You may be able to speed up operations or cut down errors. Or you may find no room for improvement at all — and that's reassuring.

Many firms in many fields have proved this joint analysis profitable. It costs nothing, carries no obligation. Call your local telephone company *now*, while you are thinking about it.

PAPER TRADE JOURNAL
Reg. U. S. Pat. Off.
SIXTY-SEVENTH YEAR
PAPER
Established Feb. 17, 1899
Consolidated Nov. 16, 1899
with Paper Trade Journal.
Vol. CVII, No. 19 Thursday, November 10, 1938
Established Sept. 21, 1918
Consolidated Feb. 19, 1925
with Paper Trade Journal.

# Canadian Newsprint Priced at $50 Per Ton

## Dominion Paper Manufacturers Accept Price of $50 A Ton Which Prevailed In 1938 As Basis For 1939, Despite Great Northern Co's. Adherence To Price of $48—Rayon Pulp Price Reduced — Other Late News.

[FROM OUR REGULAR CORRESPONDENT]

MONTREAL, Que., November 7, 1938—It is being taken for granted that the price of newsprint for 1939 has been settled and that it will remain on the same basis as last year, namely $50 per ton. This is the deduction made from the announcement by Great Northern Paper of a continuance into 1939 of the $48 a ton price for newsprint which it has been following this year and the immediately following announcement of the International Paper Company that its present price schedule of $50 a ton for delivery at New York, Chicago, Atlantic and Gulf ports will be extended through all of 1939. The price announcement of the International usually takes the lead in setting the general price for the year, and is already being followed by similar announcements from other companies, as for instance the Consolidated Paper Company and the Abitibi Power and Paper Company.

### Price Reduction for Rayon Pulp

Rayon pulp prices for 1939 have been announced at $80 a ton, a reduction of $5 from the current level, and comparing with $97.50 a ton in the early part of this year and $72.50 during 1937.

The $97.50 price for 1938 was set in July of last year, when demand was at a high level, but withdrawal of Japan, which previously was the chief buyer, from the market, resulted in reversal of boom conditions. The decrease announced for next year is due to the fact that bleached sulphite is now quoted at $50 a ton, and $85 for rayon pulp was considered out of line.

In Canada, Canadian International has two rayon pulp mills, one at Kipawa and the other at Hawkesbury, while Restigouche Co., Fraser subsidiary, is also a producer. The Kipawa mill is now operating full time against only two weeks a month during the first part of 1938. The Hawkesbury mill continues on half time.

### Pulpwood Reserves Dwindling

R. O. Sweezy, who for years has been prominent in pulp and paper circles here, said in an address to the Montreal Rotary Club that as a result of the wastage of years some cause for concern or alarm with respect to the pulpwood reserves of the province of Quebec is justified.

While some newsprint companies estimated sufficient reserves for a generation, said Mr. Sweezey, that generation has now become advanced in years and is being replaced by a new generation.

He estimated the present capital stand of Quebec's forest at 200,000,000 cords and said the annual cut for pulpwood alone in normal times was 3,000,000 cords to which must be added the large cut of spruce for lumber. In addition there was destruction through fire and insects. An annual increment of two per cent could not be assumed until such time as the forests were put on a proper sylvicultural basis. Thus, he said, we are accelerating our course in the wrong direction.

### Why Proper Steps Had Not Been Taken

The answer as to why proper steps had not been taken, the speaker said, lay in the fact that the industry had not been adequately paid for its services, and this was due to the fact that Canadians built too many mills to utilize cheap forests and water powers. Before plans could be implemented to save the forests, the menace of over-production broke prices in a series of rapid downward steps. Costs for such a programme, he said, would begin at two dollars per ton of product and reach five dollars over a period of years.

Mr. Sweezey said he hoped the move for early application of agricultural forestry would come from the pulp and paper companies themselves, leading to a properly considered act of the legislature. If the companies delay action too long, he declared, they might face legislation which would be blindly copying methods in use in European countries without consideration for existing and obviously different conditions.

### Unlike Former Period

Unlike the period of the expanding twenties, Mr. Sweezey said, the paper industry could not expand much further because of lack of new forest facilities —With this in view the growth of consumption of paper and pulp products might provide an early opportunity to get on a sound and prosperous condition of permanent duration.

# Paper Industry to Ascertain Unemployment

## George C. Cobean, President of National Paper Trade Association Calls Upon the Paper Trade Associations To Attend Conference To Consider What Can Be Done About Taking Up the Slack of Unemployment.

George G. Cobean of Chicago, president of the National Paper Trade Association of the United States, Inc., last week called upon the trade associations of affiliated trades and industries to organize and attend a conference of the paper industry and its affiliated trades and industries to consider how much unemployment exists in these industries, to what extent the government has gone into their business, and what could be done cooperatively by them as private industry to take up the slack of unemployment.

### Object Lesson to Other Industries

Mr. Cobean asked whether these industries could not "begin to attack the problem realistically and to furnish an object lesson to other trades and industries to do the same." He stated that he believes "it to be the responsibility of every business man to bring about by personally activating himself the conditions which, as a group, we believe to be conducive to free enterprise, free government and free living. The problem faced by every trade and industry is clear. It must satisfy the demand of its employees and their dependents and of the people generally for economic security. The people realize that the machine can supply plenty and cannot understand why trade and industry which operate the machine cannot distribute that plenty for the benefit of all. Economic security is now as essential an objective in the lives of our people as freedom of speech, religion and the press.

"At first government took over many activities which should properly be the province of trade and industry due to the emergencies of the 1932 depression. Thereafter government continued these measures claiming that trade and industry has failed to assume its social obligation, while trade and industry believes, in refutation, that it has been blocked in doing so by the actions of government itself."

### Mounting Burden of Taxation

Mr. Cobean's letter continued: "Such relief by government has resulted in a mounting burden of taxation with which we are all familiar. It has manifested itself in a steadily declining margin of profit for trade and industry despite reasonably sustained business volume. This declining margin of profit has resulted in turn in our inability to make business and private improvements which have further impeded our return to a more prosperous condition. At the same time the government in its efforts to find something to keep the unemployed busy has more and more invaded the field of private trade and industry and further curtailed their ability to restore prosperous conditions.

### Must Be Faced and Rectified

"It is now pointless to complain against these conditions. Insofar as the management of trade and industry is concerned, they exist and must be faced and rectified. I believe that trade and industry still have adequate power and resources not only to meet these conditions, but to reform our whole society and place it on a more prosperous economic level than it ever enjoyed before, if we recognize that economic security is our job and that it is not just a debatable political or sociological issue."

Mr. Cobean's letter follows his address to members of the National Paper Trade Association of the United States, Inc., at their recent semi-annual meeting in Chicago.

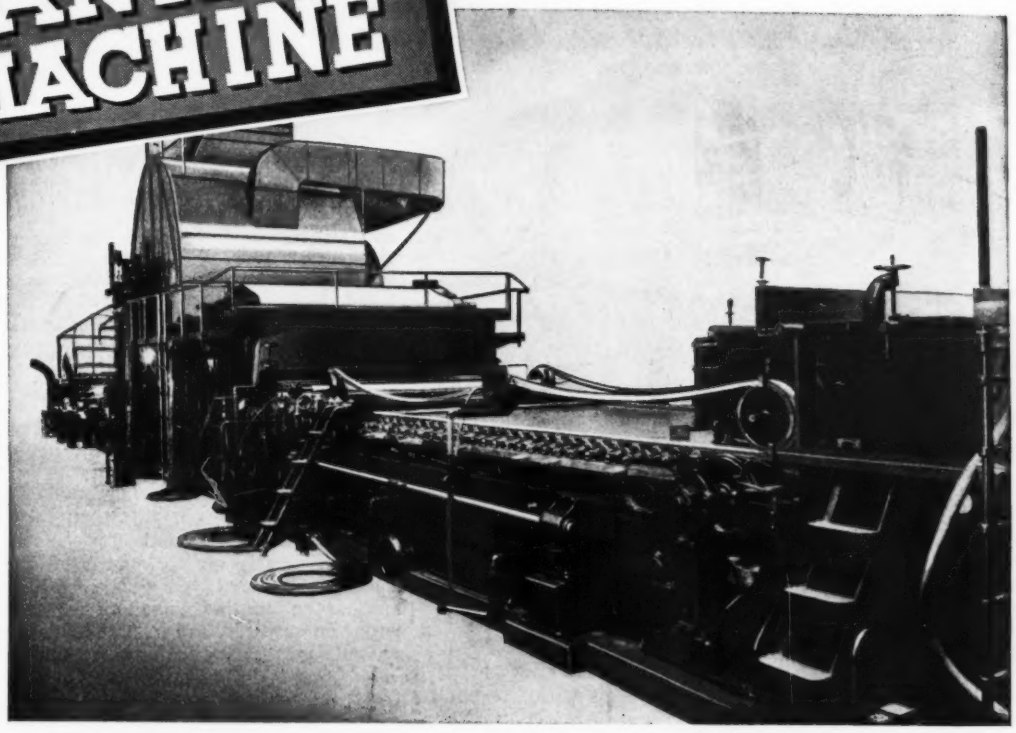
### Mr. Chamberlain Explains Action

The National Paper Trade Association represents Paper merchants throughout the United States. In releasing the above letter of the President, its executive secretary, Mr. A. H. Chamberlain from New York City stated that the members of the association believe that as wholesalers they are not only a conduit as between manufacturers and converters and consumers but also a governor regulating the flow of paper and reflecting promptly supply and demand. For this reason he said paper merchants feel an especial responsibility to contribute what they can to lead all American industry toward contributing toward the rehabilitation of purchasing power based upon earnings from private industry. Only in this way, he said, can democratic institutions be preserved and the free initiative which built our country continue to have full play.

### Associations Represented

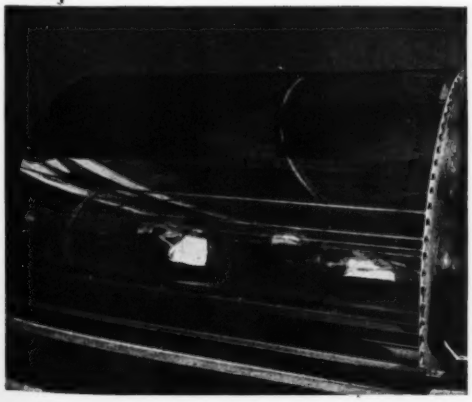
Mr. Cobean's letter was sent to the following:
American Paper and Pulp Association
Newsprint Manufacturers Association
Book Paper Manufacturers Association
Writing Paper Manufacturers Association
United Typothetae of America
Lithographers National Association, Inc.
New York Employing Printers Association, Inc.
Kraft Paper Association
Paper Bag Manufacturers Institute
Ground Wood Paper Manufacturers Association
Envelope Manufacturers Association of America
American Sulphate Pulp and Board Association
American Waxed Paper Association
The Tissue Association
Binders Board Manufacturers Association
Blotting Paper Manufacturers Association
Bristol Board Manufacturers Group
Cardboard Manufacturers Association
Cover Paper Manufacturers Association
Cup and Container Institute, Inc.
Cosmopolitan Paper and Twine Association
Glassine and Greaseproof Manufacturers Assn.
Glazed and Fancy Paper Manufacturers Assn.
Greeting Card Publishers, Inc.

# THE Beloit YANKEE MACHINE



● **The Beloit Yankee Machine furnishes an economical easy means of diversification. No other machine has the all-around adaptability to fit the needs of mills making specialty papers, both light and heavy weights.**

**The machine is provided with all the latest features: Removable Fourdrinier ...High Speed Super Shake...Suction Rolls...High Pressure Dryer...Hypoid Drive, etc.**



**Beloit has developed a special alloy metal and special grinding and polishing process to produce the close grained, hard mirror finish shown in this photograph. This is a result of Beloit's many years of experience in building practically all the Yankee machines in this country.**

**Beloit has also recently developed a high pressure Yankee dryer to meet the demand for maximum production.**

*THE BELOIT WAY IS THE MODERN WAY*

**BELOIT IRON WORKS • BELOIT • WIS.**

Gummed Industries Association
Liquid Tight Paper Container Association
Metropolitan Bag and Paper Jobbers Association
National Container Corp.
National Fibre Can and Tube Industry
National Paper Board Association
National Paper Box Manufacturers Association
National School Supplies and Equipment Association
New Jersey Paper Trade Association
Paper Stationery and Tablet Manufacturers Assn.
Specialty Paper and Board Association
Sulphite Paper Manufacturers Association
Tag Manufacturers Institute
Transparent Bag and Envelope Association
Fibre Board Manufacturers Association
Folding Paper Box Association of America
Vegetable Parchment Manufacturers Association
Wholesale Stationers Association of the U. S. A.

## J. L. Ober Goes to Chester Plant

BRUNSWICK, Ga., November 7, 1938 — J. L. Ober, vice president and general manager of the plant of the Brunswick Pulp and Paper Company, who has been in charge of operations since the plant started here and who made an investigation when the company was seeking a location in the south, will return within a few weeks to the Scott Paper Company, Chester, Pa., and he will be succeeded here as general manager of the local plant by E. J. Gayner, of Chester.

Mr. Ober was associated with the Scott Company a number of years before coming to Brunswick. He came here with other officials when an investigation of southern ports was being made for the new plant, and he played a prominent part in negotiations which brought the plant to Brunswick. He came here permanently on November 26, 1936, and was in charge of the construction of the big plant. He not only assisted in deciding upon the location of the plant, but he also was one of those making the survey.

Mr. Ober, however, was not assigned here definitely by his company. At the time he came to Brunswick and assumed his duties as general manager it was not announced whether or not he would remain permanently. It is understood that now, the Brunswick plant being fully organized and in operation, he has been recalled by the Chester company. The Brunswick plant is owned jointly by the Scott Paper Company and the Mead Corporation of Chillicothe.

## Pay Increase Announced at Canton

CANTON, N. C., November 7, 1938—A five per cent increase in pay for more than 2,000 employees of the Canton division of the Champion Paper and Fibre Company was announced here last week by Reuben B. Robertson, Sr., president and general manager of the company.

The wage increase, which will become effective on November 7, will increase the annual payroll of the company here by approximately $150,000, Mr. Robertson said in making the announcement.

The average monthly payroll at the present is approximately $220,000. When the new pay rate goes into effect, the annual payroll will be approximately $3,150,000. The plant operates on a 13-months basis.

The increase will affect both salaried employees and those who work on hourly basis.

## To Expand Mobile Mill

The Southern Kraft Corporation will spend $150,000 to $200,000 in expansion of its Mobile, Ala. mill, according to an announcement of R. J. Cullen, president of the International Paper Company of New York, which controls Southern Kraft, in a press dispatch from that city on October 30.

This will mean a 5 per cent increase of the pulp and paper mills—5,000 more tons of paper a year, Mr. Cullen said. Employment will not be increased in that proportion, however. At present over 1,600 persons are employed in the Mobile mills and more than 1,700 in the woods.

"We increase our facilities as we need them," Mr. Cullen said, explaining that demands for more paper for paper bags by the Continental Bag division of the company and by other bag plants, prompted the contemplated expansion. The expansion will be in pulp and paper and not in the bag plant, which is now one of the largest in the world. The pulp and paper mills supply about 100,000 tons of paper yearly to the Continental plant when it operates at capacity, and also supplies the Terminal Bag Company, which has a 20-ton capacity, and plants in other parts of the country.

In commenting on paper production in the South, Mr. Cullen was asked if the International Paper Company contemplated building newsprint mills in the South. "We would not, of course, build mills in the South while our mills in Canada are still modern and in good condition, but when they need replacement—that is a different story", Mr. Cullen said. "International is greatly interested in the Southern newsprint proposal and we would like to see a mill built in the South. Canadian wood is superior for newsprint manufacture in that it makes whiter paper without so much chemical treatment, but, on the other hand Southern pine makes stronger paper." Included in the general production gain by International Paper Company since March, the report quotes Mr. Cullen as stating that a 15 per cent increase has occurred in newsprint production.

## Newsprint $48 to $50 Ton

R. J. Cullen, president of the International Paper Company announced November 4 that the company was announcing to its newsprint customers that its present price schedule will be extended throughout all of 1939. This price is $50 a ton for delivery at New York, Atlantic and Gulf ports.

The Great Northern Paper Company in a prior announcement stated that it will continue in 1939 the company's present price of $48 per ton, delivered at New York.

## Finds Business in U. S. Improved

[FROM OUR REGULAR CORRESPONDENT]

TORONTO, Ont., November 7, 1938—A. G. Pounsford, manager of Provincial Paper, Port Arthur Division, returned recently from an extended business trip to Central United States cities and reports that he found things improving in a highly encouraging manner.

Paper companies to whom Mr. Puonsford gave particular attention are increasing their output and operating a larger proportion of the time.

• When problems arise pertaining to the use of Liquid Chlorine you need expert counsel—and you usually need it quickly. EBG's staff is trained to solve such problems with promptness and efficiency. Whatever your needs for liquid chlorine, whatever your problems regarding its use, you can count on getting quick action from EBG—with a full measure of the old-time courtesy.

**ELECTRO BLEACHING GAS COMPANY**

MAIN OFFICE: 60 EAST 42nd STREET, NEW YORK, N. Y. • PLANT: NIAGARA FALLS, N. Y.

EBG Liquid Chlorine

FIRST IN THE COUNTRY

# News of the Wisconsin Paper Industry

## Kimberly-Clark Employees Tendered Banquet As Winner of Six Months' Safety Contest—Allis-Chalmers Modernize 34-Year Old Power Plant—Movement of Coal On Fox River Active — Other Late Industrial News.

[FROM OUR REGULAR CORRESPONDENT]

APPLETON, Wis., November 7, 1938—Employees of the Kimberly-Clark Corporation's mill at Kimberly, Wis. who won a six months' safety contest ended September 30 were tendered a banquet Sunday evening, November 6, at the mill clubhouse. The contest was won by the sulphite, woodroom and planning departments, the group having the highest number of points for no lost-time accidents. All of the departments were divided into six groups for the duration of the contest. Monthly safety meetings were held and each group was responsible for a program. The contest culminated with a general safety rally and parade.

### Allis-Chalmers Modernize Power Plant

Allis-Chalmers Manufacturing Company, Milwaukee, Wis., manufacturers of turbines, generators and other power equipment, has completed modernization of its 34-year-old power plant at a cost of $750,000. Four of the twelve old boilers generating a total of 600 boiler h.p. were removed, and replaced by two new ones of latest design which can generate 15,000 pounds of steam per hour, or more than the original twelve. The remaining old boilers also are to be removed, and one more modern one will be installed.

Because of limited space the boilers were built vertically rather than horizontally. Each is a self-contained unit standing 100 feet high, weighs approximately 1,000,000 pounds, and contains 22,000 lineal feet of boiler tubes.

Furnaces burn the coal in suspension with a capacity of 10,000 cubic feet. The coal is pulverized to powder fineness and is fed by blowers. The ash is trapped in dust collecting devices, leaving only a slight discharge from the smokestacks.

The steam turbines can generate enough power to supply a city of 25,000 population. The plant not only furnishes power for the company's 75 acres of factory, but also supplies steam for heating, compresses air and furnishes lighting current. Because of increased efficiency, the company expects a saving of 20,000 tons of coal annually.

### First Aid Class at Thilmany Pulp

Employees of the Thilmany Pulp and Paper Company, Kaukauna, Wis., are enrolling in a class in first aid to be held weekly at the mill for nine weeks. Leon C. Palmer will be the instructor. Two hours of instruction will be given each week in the proper handling of all accidents, minor and major, and all emergencies. It is believed the training will be valuable in reducing the consequences of accidents, and in the possible saving of life. Each worker who completes the course satisfactorily will be awarded a Red Cross certificate in first aid.

### Movement of Coal on Fox River

Barges of the Fox River Navigation Company are working at full speed to complete delivery of coal to paper mills of the Fox River Valley before navigation closes for the winter late in November. The government locks tenders report 243 passages for the month of October. Only about half of the usual shipping was accomplished in September, due to high water and excessive current. The coal is hauled up the Fox River from Green Bay, Wis. docks by barges.

### Badger Paper Mills Annual Banquet

The annual banquet of the Badger Paper Mills, Inc., Peshtigo, Wis., was held Saturday evening, November 5, at the mill gymnasium, with an attendance of 400 employees, officials, executives and directors of the company. City officials of Peshtigo were guests. The speaker of the evening was Circuit Judge Arnold F. Murphy of Marinette, Wis. Judge William Haase was master of ceremonies, and Clyde Broughton served as pianist. The employees and their wives enjoyed dancing afterwards.

### H. H. Gottsleben To Start Business

Herman H. Gottsleben, buyer for the Kimberly-Clark Corporation, Neenah, Wis., has resigned and is planning to enter the paper mill supply and equipment business in partnership with Steve Murphy of Appleton, Wis., who held executive positions with several paper mills in the Fox River Valley.

Mr. Gottsleben devoted 26 years to service with Kimberly-Clark. He was the guest of honor at a surprise dinner at the Conway hotel, Appleton, Wednesday evening, November 2, attended by 50 executives and office workers who had been associated with him. It was a farewell party, and he was presented with a gift.

---

## Smith-Scharff Have Package Exhibit

The Smith-Scharff Paper Company, 434 South Theresa avenue, St. Louis, Mo., has just completed a three days packaging exhibit at the Statler Hotel in that city.

"This exhibit was very well attended," says a representative of the company, "and we know that a large number of those who were present will check their purchasing to make sure that their packages are safely protected to arrive at destination safely and looking well. Some of the others had suggestions to give. Some wondered whether or not it was possible to put a little more customer appeal in their packages. Others as a result of this exhibit are going to find that certain economies can be made in their packaging costs.

"We arranged as the feature of this exhibit a display of automotive parts and accessories wrapped in Corroflex that were formerly packed in corrugated cartons. Also among the many other exhibits was the largest roll of tape made, which was the Sterling grade contributed by the Gummed Products Corporation of Troy, Ohio."

# Chicago Sees Improvement After Election

## Paper Markets Run In Narrow Range Although Mill Production Continues Encouraging—Some Price Adjustments Made In Lower Grades of Sulphite Papers—Wallpaper Business Improves—Expect Pulp Shipment.

CHICAGO, Ill., November 7, 1938—A reported fair degree of strength in the pulp market and a continued feeling that business will show more improvement "after elections" have combined to do little more than cause local conversation over the paper business. The markets are running in a narrow range although mill production continues to be an encouraging sign, according to reports. The price structure continues to be unsatisfactory and there are a number of local executives who feel that the industry must not lose sight of the importance of this factor while getting excited over the provisions of recently passed legislation. Some sad lessons are reported to have been learned in 1938—and the industry locally feels that better prices should be in evidence next year.

### Sulphite Grades Readjusted

Specifically, only the lower grades of sulphites provided any marked news of interest during the week. Some price adjustments were made in some lines of sulphite but even these were considered as stabilizing factors in certain parts of the industry. Book and cover markets showed little disposition to change although in some quarters an improvement in demand was reported, particularly in the former. Krafts "coasted" with the general market, finding the retail outlets stagnated by unseasonably warm weather as well as the comparative uncertainty over the immediate outlook. Boards were in slightly better demand, particularly the building grades. Newsprints and sulphites looked well in comparison to the position maintained last year. Waste papers continued stronger, particularly in mill lines, according to local reports.

### Plan State Wage-Hour Measure

Even while paper manufacturers and jobbers are considering ways of complying with the complexities of the Federal Fair Labor Standards Act, Illinois labor representatives report that a determined drive is to be made in Illinois to pass a bill covering intrastate workers not now eligible under the Federal bill. Labor interests have also stated a desire to place the hour limitation at 40 hours at the outset rather than to begin at 44 hours. Such a measure, if approved by the Illinois Legislature, would work a tremendous and costly hardship on thousands of customers of the paper industry as well as on certain factors within the industry not now eligible. The cost factor involved to retailing and others in the distributive field is too obvious, according to local paper executives, to necessitate any further comment. Meanwhile, those eligible under the Federal Act are finding the services of the American Pulp and Paper Association and the National Paper Trade Association of tremendous assistance at a most trying period. The wage principles of the act are reported as not so perplexing nor confusing as the 44 hour work week. Recent advisory material from the association covering maximum hours and overtime compensation has been of some help in clearing up some points locally. However, there still remains a great deal of uncertainty arising from the way in which salaried executives are to be handled to insure conformity to the Act itself.

### Wallpaper Business Improved

Some optimistic reports from an important user of paper have been given widespread publicity this week. One of the feature bits of news states that the United Wall Paper Factories, Inc., is now operating on a 24 hour schedule in its Chicago plant, according to A. J. Browning, president. Last month, the company was on a double shift. The company's orders in October, Mr. Browning reported, exceeded ten million rolls for the second consecutive month. The total was 10,249,841 rolls, compared with an all time peak of more than 12,000,000 rolls in September. Similar gratifying reports have been received from others in the industry.

### Attend Superintendents Meeting

A number of Chicago visitors were present at the October meeting of the northwest division of the American Pulp and Paper Mill Superintendents who got together for their Fall session at nearby Madison, Wis. The cooperation of the Forest Products Laboratory and the schedule covering the krafts and the sulphite and paper groups were reported to have held the attention of Chicagoans as well as of visitors from other areas.

### Waterway Pulp Shipment

More specific instances of the growing commercial use of the Lakes to the Gulf waterway to the paper industry is indicated in a recent dispatch which states that a shipment of approximately 2000 tons of woodpulp is due at Chicago shortly after November 15. The woodpulp, it is reported, is to be shipped from Fernandino, Fla. by rail to Alton, Ill., where it will be transferred to barges for handling to Chicago via the historical waterway.

---

## How to Meter Steam

How to meter steam accurately in the form of condensate is the subject of a revised 12 page Bulletin No. 35-80A on the ADSCO Rotary Condensation Meter. It illustrates and describes the meter, gives details of construction, operation, installation diagrams, typical installation photographs and a partial list of users in the industrial, college, institutional and public utility fields. A copy of the bulletin may be obtained by addressing the American District Steam Company, North Tonawanda, N. Y.

# Scott Paper Co. Gets Unique Publicity

## Products of Well-Known Chester Concern Are Shown In Lobby of Bank —Philadelphia Waste Association Nominates Officers For Ensuing Year —Stark Paper & Twine Co. Occupies New Quarters At 506 Chestnut St.

[FROM OUR REGULAR CORRESPONDENT]

PHILADELPHIA, Pa., November 7, 1938—A unique and novel idea of familiarizing the local citizens with the magnitude, scope and nature of the many local industries was conceived by the Delaware County National Bank, which has adopted plans to have a new exhibit every two weeks for many months to come. J. Newton Pew, cashier of the Delaware County Bank, Chester, Pa., thought of the plan to publicize some of the well known industries, for says Mr. Pew "even though many of our plants are known throughout the world, many of our local people know little concerning them or the nature of their products." The idea has met with favorable response and many of the executives of the leading industrial plants have shown their willingness to cooperate with Mr. Pew in arranging for a display of their products over an extended period.

The local company which has its exhibit on display in the lobby of the bank at present is the Scott Paper Company which ranks today as one of Delaware county's leading industries. While the company came to Chester in 1910 it was founded in Philadelphia as early as 1879, as a wholesale paper concern. Its first factory was at the foot of Market street, in an old soap plant. It started with 70 people and its sales in those days were $750,000 annually. Today the Scott Paper Company employs over 1200 men and women and its annual gross sales this year will exceed $16,000,000. Scott products are sold throughout the United States and in 54 countries abroad.

Before any display is shown in the bank, a colored sketch is made to scale to show just how the finished exhibit will look in the lobby. Then the booth is arranged to suit the proper color harmony of the products to be shown. All the work in connection with the various displays is done by a committee of the bank's employees, Robert Hunter, Elizabeth Hoffecker and Art Polishuk.

### Paper Men on Graphic Arts Program

At the October meeting of the Baltimore Graphic Arts Sales Club, several prominent members of the paper trade in Baltimore actively participated. Halsey E. Ramsen of Whitaker Paper Company, William Briscoe of O. F. H. Warner & Co., Winfield S. Roe of B. F. Bond Paper Company, and Thomas C. Price of Barton, Duer and Koch Paper Company, and president of the Maryland and District of Columbia Paper Trade Association, were on the program, presenting interesting and helpful suggestions to assist the graphic arts salesmen in sales technique, etc.

### Waste Merchants Association Meets

The annual meeting of the Philadelphia Waste Merchants' Association was held last week in Broadwood Hotel. The Nominating Committee presented its nominations for officers of the Association for the ensuing year, and they were as follows: For president, Harry M. Bailey of Hemmingway Company; Vice-president, Arthur L. Feierman; Treasurer, William L. Simmons; Secretary, Dominic Di Santi of Alex. Di Santi & Sons Company. Members chosen to serve on the executive committee were: Joseph Marchiesello, Peter Di Aso, George A. Dienno, Morris Mossman, Barney Lavin, Edward Corner, Louis Bantvoglia, Wm. J. McGarrity, Jr., Edward Orr and John Beitchman.

Because of a ruling adopted by the association that the president cannot serve more than two years, the present incumbent, James O'Neill could not succeed himself; however, Mr. O'Neill automatically becomes a member of the executive committee. Election of officers takes place at the December meeting of the association.

The Stark Paper & Twine Company, formerly of 217 Race street, is occupying its new headquarters at 506-8 Cuthbert street. The increased business in the department for shippers' supplies and equipment has made this move necessary. The trebled warehouse capacity will enable this company to provide the most complete service ever made available for the shipping department. A 60-page catalog, to be issued shortly, will illustrate new style strapping tools and seals of its own manufacture, and Clarence Steinberger of this company wishes to express his deepest appreciation for the part his customers have played in making this step possible.

---

## To Clear Up Westfield River Bed

[FROM OUR REGULAR CORRESPONDENT]

HOLYOKE, November 7, 1938 — Steps have been taken to interest officials of the State Department of Public Works in clearing the many thousands of yards of sand, gravel and debris deposited in the bed of the Westfield River near the power plant at Woronoco. Superintendent Lawrence Shattuck of the Strathmore Paper Company and Donald L. Moore, vice president of the Westfield Paper Company, conferred with county officials this week to enlist their influence in the project to clear the channel. The Westfield river changed its course during the flood and swept around the dam doing serious damage to the power plant and leaving a heavy deposit on the tail-race of the dam. The company plans to expend $150,000 in repairs on the dam and power plant and work will start within a few weeks.

---

## Peru to Build New Paper Mill

[FROM OUR REGULAR CORRESPONDENT]

WASHINGTON, D. C., November 9, 1938—A new paper manufacturing company was recently organized in Peru which will operate under the name of the Sociedad Agricola Paramonga, located in Supe, Peru. The plant will use sugar cane bagasse mixed with imported pulp in the production of paper.

# Financial News of Pulp and Paper Industry

## Bartgis Bros. Co. For Nine Months Ending Sept. 30 Reports Net Sales of $571,947 — Bondholders Propose New Plan For Reorganization of Eastern Mfg. Co.—I. P. Reports $12,850 Net Profit For Third Quarter.

### NEW YORK STOCK EXCHANGE

High, Low and Last for the Week Ending November 9, 1938

| | High | Low | Last |
|---|---|---|---|
| A. P. W. | 3½ | 3⅛ | 3½ |
| Armstrong Cork Co. | 51½ | 47½ | 51⅛ |
| Celotex Corp. (new) | 16½ | 14¼ | 16¼ |
| Celotex Corp., pf. | 69¼ | 69⅝ | 69¾ |
| Certain-Teed Products Corp. | 12¼ | 11½ | 12 |
| Certain-Teed Products Corp., pf. | 45 | 43½ | 44¼ |
| Champion Paper & Fibre Co. | 30¼ | 29¼ | 30¼ |
| Champion Paper & Fibre Co., pf. | 99½ | 99½ | 99½ |
| Congoleum-Nairn Co. | 28⅜ | 27⅛ | 28 |
| Container Corp. of America | 17½ | 16¼ | 17⅜ |
| Continental-Diamond Fibre Co. | 11 | 10½ | 10⅞ |
| Crown-Zellebrach Co. | 15⅛ | 13⅞ | 15⅛ |
| Crown-Zellerbach Co., pf. | 90 | 87 | 90 |
| Flintkote Co. | 29¼ | 27½ | 28⅞ |
| Robert Gair | 4⅞ | 4⅜ | 4⅞ |
| Robert Gair, pf. | 15⅛ | 14¾ | 14⅞ |
| International Paper & Power | 15 | 13½ | 15 |
| International Paper & Power, pf. | 52⅞ | 48½ | 52⅞ |
| Johns-Manville Corp. | 108¾ | 102 | 107¾ |
| Johns-Manville Corp., pf. | 128 | 127 | 128 |
| Kimberly-Clark Corp. | 28 | 28 | 28 |
| MacAndrews & Forbes | 29½ | 29¼ | 29⅜ |
| Masonite Corp. | 59 | 56½ | 58½ |
| Mead Corp. | 13⅝ | 13 | 13⅜ |
| Mead Corp., pf. | 73 | 72 | 73 |
| Paraffine Companies, Inc. | 58⅞ | 58 | 58⅞ |
| Ruberoid Co. | 32 | 30 | 32 |
| Scott Paper Co. | 50¼ | 49⅜ | 50¼ |
| Sutherland Paper Co. | 31¼ | 30¼ | 31 |
| Union Bag & Paper Corp. | 14½ | 13¼ | 14⅛ |
| United Paperboard Co. | 8¼ | 7¾ | 8 |
| U. S. Gypsum Co. | 115 | 109 | 113¼ |
| U. S. Gypsum Co., pf. | 173 | 172 | 172 |

### NEW YORK CURB EXCHANGE

High, Low and Last for the Week Ending November 9, 1938

| | High | Low | Last |
|---|---|---|---|
| American Box Board Co. | 12⅛ | 11¼ | 12⅛ |
| Brown Co., pf. | 24¾ | 22½ | 24¾ |
| Great Northern Paper | 39½ | 36 | 39½ |
| St. Regis Paper Co. | 4⅛ | 3⅝ | 4⅛ |
| Taggart Corp. | 6½ | 6⅛ | 6½ |

### Bartgis Bros. Co. Makes Good Report

Bartgis Brothers Company net sales for the nine month period ending September 30, 1938 were $571,947.90 as compared with $667,277.81 for the same period in 1937 and $449,648.89 for the same period in 1936.

Maintenance repairs and depreciation for the nine months period ending September 30, 1938 were $57,336.03 compared with $42,252.63 for the first nine months of 1937. Payroll increase over the same period of 1937 was approximately $14,500.00, while net sales for the same period in 1938 were $95,329.91 less.

Net profit, after provision for estimated State and federal income taxes, for the nine months period ending September 30, 1938 was $51,111.31. After deduction of preferred dividends such net profit was equal to approximately 40 cents per share on 108,052 shares of common stock outstanding September 30, 1938. In the first nine months of 1937 such net profit before preferred dividends amounted to $99,447.46, after making provision for all federal taxes.

Ratio of current assets to total liabilities as of September 30, 1938 was 2.6 to one, working capital $135,720.03 as compared with December 31, 1937 ratio of current assets to liabilities was 2.7 to one and working capital $138,592.90.

In submitting the report E. H. Lupton, president says "1938 has been a poor year generally in the folding box industry on account of low selling prices brought about by over production capacity. This condition has resulted in losses for some of the units in the industry. It is a source of satisfaction, however, that our earnings have been fairly satisfactory even under the adverse condition. Regular preferred dividends have been paid and a common stock dividend of 15 cents per share was paid as of April 30, and another of 10 cents per share was paid October 30, 1938. October 1938 sales were above the nine months average and our backlog of unfilled orders as of October 29, 1938 amounted to $142,000."

### New Plan for Eastern Mfg. Co.

Another proposed plan of reorganization for the $11,000,000 Eastern Manufacturing Company, pulp and paper manufacturers, has been filed in the federal court at Bangor, Me. The company has been operating under Section 77-B of the national bankruptcy act since last December after it defaulted interest payments on its mortgage bonds four years ago. The latest plan was presented by a group representing the 6 per cent bondholders of Orono Pulp and Paper Company, a subsidiary of Eastern.

Principal provisions of the proposed reorganization are: Holders of Orono Pulp and Paper 5 per cent bonds receive all principal and deferred interest in cash; Eastern Manufacturing 7 per cent bondholders receive new 15-year closed mortgage bonds carrying interest at the rate of 5 per cent, on a bond for bond basis. For deferred interest, they are given 16 shares of new 5 per cent prior preferred stock of $20 par value, which is convertible into two shares of new common stock, par $10, and $30 in cash. The new bonds are also convertible into 100 shares of the new common stock for each $1,000 bond.

Orono Pulp and Paper 6 per cent bonds receive face value in new bonds for their present holdings and 12½ shares of prior preferred stock plus $10 in cash.

Present preferred stock is to receive four shares of new common for its claims and present common receive 4/10ths of a share on new common.

### Scott Paper Co. Increases Profit

A net profit of $1,120,032 for the nine months ended on October 2 was reported last week by the Scott Paper Company. This result makes allowance for depreciation, interest, Federal and State incomes taxes and other charges and is equal, after dividends of $12,500 on the $4.50 cumulative preferred stock issued on September 1, to $1.92 each on 576,538 shares of common stock outstanding at the close of the period. For the period ended on October 3 last year the company showed a net profit of $965,233, or $1.69 a share on the 569,985 shares of capital stock then outstanding.

Net sales for the nine months of this year increased to $12,144,817 from $10,408,786 reported for that period a year ago.

The balance sheet as of October 2, 1938, shows current assets of $6,782,599, including $3,619,335 cash and current liabilities of $1,403,114. On October 3, 1937, current assets were $4,236,207, with $2,111,067 cash and current liabilities totaled $1,221,212.

## Profit Gain for Crown Zellerbach

In line with the pick-up in volume in practically every division of the paper industry, Crown Zellerbach is expected to show considerably larger earnings for the quarter ended October 31, the second of the company's fiscal year, than in the preceding quarter. For that period, the company reported a net profit of $970,055, equal to 13 cents a common share after preferred dividends.

The company's net profit in the quarter ended October 31, according to the Investors' Bureau, San Francisco statistical firm, is expected to fall short of the $1,933,090 net profit reported in the like 1937 period, but it says the margin of difference between this year and last should be much less than it was in the first quarter of the current fiscal year.

Improvement in Crown Zellerbach's earnings reflect increasing tonnage sales of most types of paper and paper products, the increase enabling the company to expand production and thus employ a larger percentage of its facilities.

## Nashua Gummed Earns $60,265

Nashua Gummed and Coated Paper Company reports consolidated earnings of $60,265 for the first nine months of this year, compared with an operating deficit of $22,862 for the first quarter of 1938, and a deficit of $22,365 in the six months ended June 30.

After preferred dividends, the balance of $39,605 for the first nine months of 1938 equaled 86 cents a share on the common. Dividends totaling $86,601 were paid on the common during the nine months ended September 30.

Balance sheet as of September 30 showed current assets of $2,460,830 and current liabilities, including reserve for 1937 and 1938 income taxes, totaled $512,966.

## Hummel-Ross Reports Small Profit

The Hummel-Ross Fibre Corporation reports as follows for nine months to September 30: Profit before Federal and State income taxes, $76,666, compared with net profit last year of $634,703 after Federal income taxes.

## I. P. & P. Co. Reports Smaller Profit

Richard J. Cullen, president has submitted the statement of consolidated profit and loss of the International Paper and Power Company and subsidiary companies (excluding International Hydro-Electric System and its subsidiaries) for the third quarter and first nine months of 1938 together with comparative figures for the corresponding periods of 1937, showing that operations for the quarter resulted in a consolidated net profit of $12,850. This compares with a loss of $576,181 in the previous quarter and with a profit of $3,029,384 in the third quarter of 1937. Net loss of $688,265 for the first nine months of 1938 compares with a profit of $8,062,077 for the first nine months of 1937. The statement of consolidated profit and loss follows:—

**INTERNATIONAL PAPER AND POWER COMPANY AND SUBSIDIARY COMPANIES**
**(Excluding International Hydro-Electric System and Subsidiaries)**
**Statement of Consolidated Profit and Loss**

| | Three Months Ended September 30, 1938 | Three Months Ended September 30,1937 | Nine Months Ended September 30,1938 | Nine Months Ended September 30,1937 |
|---|---|---|---|---|
| SALES AND OTHER INCOME: | | | | |
| Gross sales, less returns, allowances and discounts | $25,048,990.49 | $31,627,640.10 | $70,253,778.40 | $94,662,256,46 |
| Other income—net | 269,566.55 | 347,731.93 | 752,770.94 | 1,012,337.21 |
| | $25,318,557.04 | $31,975,372.03 | $71,006,549.34 | $95,674,593.67 |
| COST AND EXPENSES: | | | | |
| Cost of sales: | | | | |
| Pulpwood, labor, materials, etc. | $16,006,703.36 | $17,605,293.30 | $44,878,036.25 | $54,326,224.60 |
| Maintenance and repairs | 1,437,508.45 | 2,086,284.53 | 4,224,691.04 | 5,729,888.61 |
| Taxes (other than income taxes) | 697,932.99 | 683,709.92 | 2,016,109.67 | 1,976,159.25 |
| Outward freight and delivery expenses | 3,262,340.83 | 3,642,702.41 | 8,738,972.92 | 10,960,514.06 |
| Selling, general and administrative expenses | 1,377,218.96 | 1,478,764.52 | 4,098,505.53 | 4,382,830.46 |
| Provision for doubtful accounts | 150,228.91 | 153,425.03 | 455,147.87 | 458,517.93 |
| | 22,931,933.50 | 25,650,179.71 | 64,411,463.28 | 77,834,134.91 |
| | $ 2,386,623.54 | $ 6,325,192.32 | $ 6,595,086.06 | $17,840,458.76 |
| DEDUCTIONS: | | | | |
| Interest on funded debt | $ 903,214.70 | $ 1,010,951.33 | $ 2,696,192.52 | $ 3,048,453.55 |
| Interest on other debt | 6,009.32 | 12,484.49 | 14,511.65 | 17,294.99 |
| Amortization of debt discount and expense | 89,252.39 | 107,804.59 | 283,221.46 | 314,137.39 |
| Depreciation | 1,106,587.49 | 1,079,615.80 | 3,259,681.21 | 3,174,378.99 |
| Depletion | 168,069.84 | 227,458.51 | 588,785.91 | 811,886.72 |
| Provision for income taxes | 83,397.89 | 851,934.56 | 387,205.46 | 2,352,846.26 |
| Provision for Federal undistributed profits tax | | | | |
| Dividends accrued but not being currently paid on preferred stocks of subsidiaries | 17,241.75 | 5,559.06 | 53,753.25 | 59,383.67 |
| | 2,373,773.38 | 3,295,808.34 | 7,283,351,46 | 9,778,381.57 |
| NET PROFIT OR *LOSS* | $ 12,850.16† | $ 3,029,383.98 | $ *688,265.40*† | $ 8,062,077.19 |

In the above consolidated financial statements foreign accounts are stated on the basis of $4.85 for the pound sterling and at parity of exchange for Canadian and Newfoundland currencies without adjustment of differences. It is the practice of the companies to reflect in current operations any differences between these rates and the current quotations at the time funds are actually transferred or forward commitment contracts are settled.

Undeclared cumulative dividends on the cumulative convertible 5% preferred stock of International Paper and Power Company at September 30, 1938 amount to $5,786,875 ($6.25 per share).

The above statements are subject to final adjustment at December 31st (end of fiscal year).

† The operating results of International Power and Paper Company of Newfoundland, Limited, for 1938 have been excluded from the foregoing statement. An agreement was made on June 2, 1938 providing for the sale of all the Common shares of the Newfoundland Company to Bowater's Paper Mills, Limited, and the sale was completed on August 15, 1938. Under the terms of this agreement, International Paper and Power Company and subsidiary companies have no equity in the profit or loss resulting from the operations of the Newfoundland Company subsequent to December 31, 1937.

# Obituary

### Harry Pritchard Gould

Harry Pritchard Gould, 65, former president of the Gould Paper Company, Lyons Falls, N. Y., died November 4 at his home in Lyons Falls after a year's illness.

Mr. Gould, former president and treasurer of the Gould Paper Company, retired in 1937 as active head of the firm, one of the largest enterprises in Northern New York.

His father's fortune was estimated at one time at $12,000,000, and his personal estate was appraised at $3,325,000 after his death in 1919.

Mr. Gould's Adirondack timber holdings reached 130,000 acres in 1936. His electric light and power development and lines, his quarries at Richville, where marble for use in making sulphite was quarried; his sawmills and ground wood plants and his banking interests all were coordinated with his primary business of papermaking.

Mr. Gould was born at Moose River, near McKeever, July 22, 1873, a son of C. Henry P. and Elizabeth Pritchard Gould. He attended Lowville Academy and Cascadilla School at Ithaca before becoming associated with his father in the manufacture of paper. He continued to operate a plant after the newsprint factories moved to Canada, and had extensive lumber holdings in the Adirondacks.

He was appointed a member of the Black River regulating board when Franklin D. Roosevelt was Governor and was twice appointed by Governor Lehman. He was also interested in church and school affairs and was treasurer and trustee of Forest Presbyterian Church at Lyons Falls and treasurer of the village. He was chairman of the board of trustees of the Lewis County Trust Company and director of several banks in the Utica district.

His lumber interests were tied up with the Bartlow Lumber Company, Little Falls Lumber Company, the Meacham Lumber Company and the Donnacona Paper Company. He was president of the latter firm many years before it was sold to Canadian interests. He had been in the paper business since his twenty-first birthday.

Surviving are his widow, two sons and one sister.

### Joseph Kerr Cass

Joseph Kerr Cass, chairman of the board of the West Virginia Pulp & Paper Company for the last twenty-nine years, died November 2, after a long illness at his home at Irvington-on-Hudson. He was 90 years old. Surviving are a son, Charles Anderson Cass of New York; a daughter, Mrs. Bernon T. Woodle, of Irvington; a sister, Miss Agnes Cass, of Irvington, and six grandchildren and two great-grandchildren.

Mr. Cass, who was born at Coshocton, Ohio, was the great-grandson of Major Jonathan Cass of Exeter, N. H., Revolutionary officer, and a descendant of John Cass, an early Hampton, N. H., settler. He was graduated in 1868 from Kenyon College and began his career in the following year as a surveyor for the Grand Rapids and Indiana Railway.

From 1872 to 1876 he was associated with the Pennsylvania Railroad in Pittsburgh and then he became a partner in the Morrison, Bare & Cass Paper Company, which later changed its title to the Morrison & Cass Paper Company, with mills at Tyrone, Pa., where he served for a period as president of the First National Bank. He was president of the paper company until 1899, when, after a merger, he became a director of the West Virginia Pulp and Paper Company.

Mr. Cass was a member of the Union League and University clubs of New York, the Duquesne Club of Pittsburgh and the Sleepy Hollow Country Club.

### Levis Miller Booth

Levis Miller Booth died of heart failure at his home in Plainsfield, N. J., at 5 P. M., on Sunday, November 5, 1938. Mr. Booth was born at Chester, Pa., January 19, 1878, the son of George M. and Ellen Miller Booth. In 1899 he graduated from Swarthmore and was a member of Delta Upsilon and Sigma Psi fraternities. He is survived by his wife, and three children, George M., of Westfield, N. J., who is with the Wallace & Tiernan Company, Dr. Robert L. of Middlebury, Va., a veterinary surgeon and Helen L. Booth of Plainfield. From 1900-1904 Mr. Booth was with the Industrial Water Company, New York, N. Y. From 1904-1907 he was president of the L. M. Booth Company, water softening engineers and from 1917 to date he was head of the Booth Chemical Company, engaged in water treatment and stock coagulation in the paper industry. He had many patents in the United States, Canada, Holland and Germany and was a member of the Technical Association of the Pulp and Paper Industry, of which he was chairman of the newly formed Water Committee, the American Institute of Chemical Engineers and the American Water Works Association. On the day before he died Mr. Booth was engaged in preparing a paper for the annual meeting of TAPPI on "A More Rational Method of Stating Hydrogen Ion Concentration". This paper will be presented posthumously at the February meeting. His passing will be regretted by his large host of friends in the pulp and paper and industrial water works fields.

## Bogus Club Annual Dinner

The fourth annual dinner of the Bogus Club, an organization made up of the salesmen of Charles F. Hubbs & Company, will be held at the Downtown Athletic Club, 18 West street, New York City, on Friday, December 2, 1938 at 7 P. M.

The guest of honor will be Harry W. Doremus, vice-president and secretary of Charles F. Hubbs & Co.

Mill men are invited to attend this annual classic of the paper trade.

It is understood that the entertainment which has been planned will eclipse that of last year, which set a new high. The tariff is $3.50—Tickets may be secured from any Hubbs' salesman.

## Wrapping Paper Market Improved

BOSTON, Mass., November 7, 1938—Conditions in wrapping paper market are improving. Since the slump of about three weeks ago, prices have recovered and are on an upward tendency. It is predicted in the trade that the situation will be better for the balance of the year.

WHEN YOU FIGURE YOUR LUBRICATION COSTS...

*bring* COMPARATIVE MAINTENANCE COSTS *into the picture*

*then learn the real value of*

GULF'S *higher quality* LUBRICANTS!

TRY this measuring stick on your lubrication costs: compare your maintenance costs from month to month and determine whether they are going up or down. If maintenance is high, ineffective lubrication may be the reason . . . and no matter how little you're paying for lubricants, your *real* lubrication costs may be too high!

After making a careful study of comparative maintenance costs, an official of a large operating company recently said: "Of course we are paying a few dollars more each month for Gulf's higher quality lubricants, but look at this reduction in maintenance costs! Our actual dollar savings amount to nearly ten times the total cost of the lubricants. At that rate we're getting our oils and greases for less than nothing . . . *and that's the lowest lubrication cost I ever heard of!*"

You may find it difficult to evaluate all the intangible factors that make up your final lubrication costs. But of this you may be sure: when you put Gulf's higher quality lubricants to work you have taken a forward step toward improving production, reducing waste, cutting maintenance expense and making over-all savings which will give you the lowest possible "lubrication costs."

Ask the Gulf representative who calls at your plant to discuss this matter in detail. He can help you get a true picture of your actual lubrication costs. Gulf Oil Corporation—Gulf Refining Company, Gulf Building, Pittsburgh, Pa.

GULF INDUSTRIAL LUBRICATION

*Also* MAKERS OF A COMPLETE LINE OF FUEL AND FURNACE OILS

# New TAPPI Members

The executive committee of the Technical Association of the Pulp and Paper Industry has elected the following to membership:

Harry A. Hughes, Chemist, St. Regis Paper Company, Oswego, N. Y., is a 1936 graduate of St. Peters College.

William H. Inman, Director of Research, Bloomer Brothers, Newark, N. Y., was formerly with H. A. Inman Company, Inc.

E. W. Kendall, Chemist, Agfa Ansco Film Corporation, Binghamton, N. Y., attended New York State College of Forestry.

Jerome L. Kipnis, assistant to President, National Container Corporation, Long Island City, N. Y., is a 1937 graduate in mechanical engineering from New York University.

O. H. Knapp, Chemist, Castanea Paper Company, Johnsonburg, Pa., is a 1925 graduate of Penn State in Chemical Engineering and was formerly with the New York and Pennsylvania Company.

W. P. C. Le Boutillier, assistant superintendent, Price Brother & Co. Ltd., Kenogami, P. Q., is a 1927 graduate civil engineer of McGill University.

Donald F. MacRae, chemical engineer and assistant to general superintendent, Howard Smith Paper Mills, Ltd., Cornwall, Ont., is a 1929 graduate of Queen University.

Lewis B. Miller, chemical engineer, Keasbey and Mattison Company, Ambler, Pa., received his Ph. D. in 1922 from Columbia University.

Ralph B. Millington, chemist, Byron Weston Company, Dalton, Mass., is a 1934 graduate chemical engineer from Northeastern University.

A. B. Moore, Jr., chief chemist, Crossett Paper Mills, Crossett, Ark., is a 1934 graduate chemical engineer of University of Arkansas.

Cyrus N. Mull, Chief Draftsman, Mead Corporation, Chillicothe, Ohio, attended Wisconsin University and was formerly with Management Engineering and Development Company and Dayton Structural Steel Company.

Etienne Perrigot, Administrator, des Papeteries D'Arches, Paris, France and was formerly with Papeteries Navarre.

Richard W. Raymond, laboratory assistant, Fort Orange Paper Company, Castleton on Hudson, N. Y., is a 1938 graduate of Maine.

John Roslund, sales representative, Asten-Hill Manufacturing Company, Philadelphia, Pa., is a 1924 graduate mechanical engineer and was formerly with S. K. F. Industries, Baker Manufacturing Corporation and Moore & White Company.

A. L. Ross, general superintendent, Southern Kraft Corporation, Georgetown, S. C., is a graduate chemical engineer of Louisiana State in 1921.

Paul M. Schaffrath, 211 E. Water St., Lockhaven, Pa., is a 1928 graduate of New York State College of Forestry and was formerly with International Paper Company, Fort Edward, N. Y.

Harold E. B. Scott, technical director, Vickerys, Ltd., London, S. E. 1, England, received his technical education at Battersea Polytechnic and is a director of his company.

Louvian G. Simons, assistant chief engineer, St. Regis Paper Company, Deferiet, N. Y., received his M. S. degree from Massachusetts Institute of Technology in 1932.

Herbert A. Smith, laboratory technician, Mead Corporation, Chillicothe, Ohio, is a 1937 graduate of Ohio Wesleyan.

Kurt Suter, bleach plant operator, Brunswick Pulp and Paper Company, Brunswick, Ga., is a 1936 graduate of Louisiana State.

Leland T. Summers, chemical engineer, Port Huron Sulphite and Paper Company, Port Huron, Mich.

Roy G. Swanson, chief chemist, Bayless Pulp and Paper Corporation, Austin, Pa., is a 1915 graduate of Penn State.

Ralph F. Webber, technical librarian, Hooker Electrochemical Company, Niagara Falls, N. Y., is a 1904 graduate of Harvard.

Gunnar E. Weckstrom, Technical Manager, o/y Waldhof A/B. Kexholm, Finland, received his dipl. in engineering in 1918 from Helsinki Polytechnic.

William J. Weed, Manager of Sales, Electro Bleaching Gas Company, New York City.

Herbert B. Wenberg, Chief Chemist, Nicolet Paper Corporation, De Pere, Wisc., is a 1935 graduate of Lawrence College.

Donald B. Wheeler, Plant Manager, Union Bag and Paper Corporation, Hudson Falls, N. Y., is a 1926 graduate in engineering of Massachusetts Institute of Technology.

Harry K. Williamson, consulting engineer, New York City, is a 1910 graduate of Manchester School of Technology, England. He was formerly with Champion Fibre Company, Brown Paper Mill Company, Bastrop Pulp and Paper Company and is now president of Harry Williamson Research Corporation.

Geo. E. Wilson, assistant superintendent, Howard Smith Paper Mills, Ltd., Cornwall, Ont., received his degrees from Queens College in 1931 and 1934.

James A. Wise, general superintendent, Kalamazoo Paper Company, Kalamazoo, Mich., is a 1926 graduate of Sheffield Scientific School of Yale and was formerly with Bryant Paper Company.

---

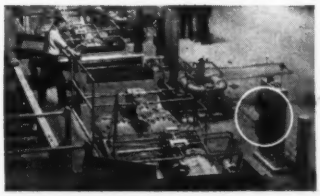
## To Hold Graphic Arts Exposition

Hon. A. E. Giegengack, president of the National Graphic Arts Expositions, Inc., announces that the Fifth Educational Graphic Arts Exposition will be held from September 25 to October 7, 1939, at the Grand Central Palace in New York City.

This exposition will be run under the same conditions and by the same corporation that operated so successfully the printing show in the Grand Central Palace in 1927. It is anticipated that many trade conventions of national importance will be held in New York City during the period of the exposition. As an additional attraction and further guaranteeing the success of the coming show is the fact that New York's great World Fair will be in full operation.

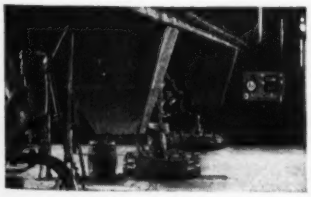
Mr. Giegengack, in addition to being president of the National Graphic Arts Exposition, Inc., is chairman of the Research Commission of the International Association of Printing House Craftsmen and Public Printer of the United States.

YES SIR, JUST LOOK HERE—FOUR WAYS TO EARN DIVIDENDS THROUGH LOW CONVERSION COSTS
DIVIDENDS EH—SO SOMEBODY WANTS TO PAY US DIVIDENDS AT LAST



**TAYLOR TEMPERATURE CONTROL** helps these grinders achieve maximum production with less power consumption. By actual test, one mill increased the production of its pocket type grinders 2.24% with Taylor Grinder Control. By actual test Taylor Control reduced power consumption 6.1% on pocket type grinders. And by actual test only 30 stone burring operations were necessary on Taylor controlled machines as against 36 such operations on hand controlled machines in an equal period of time. Accurate Taylor Temperature Control Systems can be applied not only to pocket type grinders, but to Semi and Full Magazine types as well.

* * *

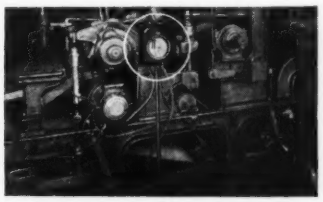


**TAYLOR AUTOMATIC CONTROL** system for sulphite digester application is entirely automatic over 90% of the cooking cycle. It maintains the essential low temperature during the penetration period; increases it at the prescribed rate for any character of stock desired; and maintains it at the maximum temperature during the remainder of the cook. The result? A maximum production of No. 1 stock with reduced "tailing" losses. Greater uniformity in strength and bleaching characteristics. Fewer losses due to poorly blown digesters. The Taylor Digester Control System will bring you the highest possible quality—*at a lower conversion cost per ton.*



**TODAY 25 MILLS** use Taylor Pressure Recorders on their Beater Rolls. Actual tests have shown savings up to 12% in beating time—12% increase in production without new equipment. They get power savings too. By actual test a saving of 5½% in power was maintained with proper roll pressure throughout the beating cycle. Taylor Pressure Recorders bring improvements in drying and folding characteristics also. The uniform character of the stock requires less steam consumption in drying, and a 100% increase in folding capacity was discovered in a comparative test.

* * *



**THE TAYLOR PRESS-ROLL LOAD RECORDER** can cut paper-drying costs, increase press operating efficiency, improve the quality of your product and cut your felt costs. This is because the Taylor Recorder lets you maintain maximum press-roll pressure, *automatically balanced* at both ends of the roll. That means more uniform quality, longer life and greater efficiency for your felt, and consequent lower cost in water removal. Actual records show the cost of water removal at the press is 16¢ per ton as against a cost of $1.68 at the dryers. Use this Taylor system for low conversion cost.

* * *

From the facts described above you can see that each of these Taylor Systems soon pays for itself and begins earning money for your mill. Which systems do you need? Get full data now by calling on a Taylor Representative, or write Taylor Instrument Companies, Rochester, N.Y. Plant also in Toronto, Canada. Manufacturers in Great Britain—Short & Mason, Ltd., London, England.

Taylor

Indicating Recording · Controlling

**TEMPERATURE, PRESSURE, FLOW *and* LEVEL INSTRUMENTS**

## Government Paper Bids

[FROM OUR REGULAR CORRESPONDENT]

WASHINGTON, D. C., November 9, 1938—The Government Printing Office has received the following bids for 4,190 sheets of 20 x 25 blue gummed paper: Virginia Paper Company, $10.00 per M sheets; Walker, Goulard Plehn Company, $10.40 less 2 per cent; Mudge Paper Company, $10.17; Whitaker Paper Company, $8.75; R. P. Andrews Paper Company, $8.29; Mathers-Lamm Paper Company, $9.35; and Stanford Paper Company, $12.00.

For 5,000 pounds (25,000 sheets) of 19 x 24 blue desk blotting paper: R. P. Andrews Paper Company, 5.29 cents; Mudge Paper Company, 5.43 cents; Old Dominion Paper Company, 5.49 cents; Virginia Paper Company, 5.5 cents; Stanford Paper Company, 5.34 cents; Barton, Duer & Koch Paper Company, 5.45 cents; Mathers-Lamm Paper Company, 5.4 cents; Cauthorne Paper Company, Inc., 5.42 cents; Whitaker Paper Company, 5.23 cents; and L. Hyman & Son, 5.33 cents.

For 9,750 pounds (300,000 sheets) of 100 per cent rag, white manifold paper, grain 21 inch way, 21 x 32: Barton, Duer & Koch Paper Company, 23.25 cents; R. P. Andrews Paper Company, 23.45 cents; Stanford Paper Company, 23.99 cents; Whitaker Paper Company, 25.74 cents; Mudge Paper Company, 25.47 cents; Paper Corp. of U. S., 26.87 cents; Old Dominion Paper Company, 25.907 cents; Cauthorne Paper Company, Inc., 25.68 cents; Walker, Goulard Plehn Company, 24.66 cents; and Mathers-Lamm Paper Company, 25.4 cents.

For 135,000 pounds (15,000,000 sheets) of white mimeograph paper, 8x10½: Whitaker Paper Company, 5.16 cents; Old Dominion Paper Company, 5.3447 cents; Stanford Paper Company, 5.7 cents; Marquette Paper Company, 5.425 cents; R. P. Andrews Paper Company, 5.48 and 5.23 cents; Aetna Paper Company, 5.96 cents; Paper Corp. of U. S., 6.2 cents; Mudge Paper Company, 5.17 cents; and Cauthorne Paper Company, 6.06 cents.

For 12,600 pounds (150,000 sheets) 24½ x 32 pink mimeograph paper: Stanford Paper Company, 5.74 cents; Aetna Paper Company, 5.8 cents; Paper Corp. of U. S., 6.45 cents; Whitaker Paper Company, 5.86 cents; Marquette Paper Company, 5.8 cents; Walker, Goulard Plehn Company, 5.8 cents; and Old Dominion Paper Company, 5.839 cents.

## TAPPI Notes

The Delaware Valley Section of the Technical Association of the Pulp and Paper Industry will meet at the Engineers Club, Philadelphia, Pa., Friday, November 18 at 6:30 P. M. M. S. Kantrowitz, technical director, U. S. Government Printing Office, will talk on "Standardization of Relative Humidity for the Conditioning and Testing of Paper".

P. W. Hardesty is now pulp mill superintendent at the Harriman, Tenn. Division of the Mead Corporation.

L. A. Thompson is now resident manager of the Marrero, La. plant of the Hercules Powder Company, Paper Makers Chemical Division, having been transferred from Agawam, Mass.

W. A. Buddingh is now with the Alexander & Baldwin Company, Paia, Maui, Hawaii.

Charles Di Carlo is now chief chemist for the Wausau Paper Mills, Brokaw, Wis. He was formerly chemist for the Beveridge Paper Company, Indianapolis, Ind.

F. A. Morris, engineer for the Minnesota and Ontario Paper Company, Minneapolis, Minn., is now with Celotex, Ltd., Wembly, England.

S. R. Williamson, formerly chemist for the Brunswick Pulp and Paper Company, Brunswick, Ga., is now with the Southern Kraft Corporation, Spring Hill, La.

John C. Harper, formerly of the West Jersey Paper Manufacturing Company, is now plant engineer for the Manhattan Soap Company, Bristol, Pa.

J. V. N. Dorr, president of the Dorr Company, was awarded the Chemical Industry Medal by the American Section of the Society of Chemical Industry at the New York Chemists Club, Friday evening, November 4, 1938. Dr. Dorr presented a paper on "The Influence of the Laws Relating to Research and Invention on Human Progress."

The Empire State Section of TAPPI will meet at the New York State College of Forestry, Syracuse, N. Y., Saturday, November 19, 1938, at 12:30 P. M.

## Philadelphia Trade News

[FROM OUR REGULAR CORRESPONDENT]

PHILADELPHIA, Pa., November 7, 1938—Quaker City Paper Company has just issued a new price list for the trade. The booklet, measuring 4½ x 9 inches is covered in a handsome blue leather-finish stock with silver printing and is Wire-O-bound. It contains 52 pages of text and covers the company's complete line. Printers and publishers who have not received copies of the price list are cordially invited to write for same.

Molten Paper Company announces the addition of Brewster Vellum, made in pasted bristol and is carried in a range of nine pastel tints and white. The stock is highly recommended for announcements, greeting cards and folders.

*Balanced Color Schemes on Herculean Cover,* a booklet that is definitely functional in design, is the American Writing Paper Corporation's new Spiral-bound specimen booklet of Herculean Cover. Herculean is made in 13 colors and white, 50, 60, 80 and 130 lb. with fancy finishes available in 13 patterns.

Much thought was given, in planning the booklet, to making it useful to printers. Gerald S. Howland, color specialist, writes the introduction; replete suggestions are given for suitable colors for various businesses and 112 balanced color schemes are provided. Twenty-eight of the combinations are in three colors and are illustrated, two on each color of paper. The remainder are two-color schemes. The percentage of each color is given so that artists may easily approximate the correct balance in actual work.

J. R. Howarth Paper Company, Philadelphia distributors for this line, will be glad to furnish a copy of the booklet to any one desiring it.

## Maintaining Pulpwood Forests

B. F. Avery, woods manager of the Great Lakes Paper Company, Limited, Fort William, in a recent public address said if the cutting of timber and pulpwood was carried out properly the forest wealth of Northern Ontario could be maintained in perpetuity. So far as conservation is concerned, he added, timber and pulpwood contractors were cutting in such a way as to ensure reproduction of timber provided forest fires do not burn over the country.

# WANTED

## MORE WORK AND LONGER HOURS

## AT LESS PAY

I WANT A JOB on your paper machines. I'll carry the load, remove the water, give you the finish you want. And because I can stay on the job *longer*, work *faster*, turn out *more* paper, I'll cost you less.

Hundreds of leading papermakers in America know me and my work. I've been serving them for 68 years. I'm working for them now, and I'm ready to work for you.

**A KENWOOD FELT**

**care F. C. HUYCK & SONS**
**Albany, N. Y.**

# CONSTRUCTION NEWS

*A Summary of Vital Facts Regarding Construction, Financing and Operation of Pulp and Paper Mills*

## Construction News

**Chicago, Ill.**—J. H. Stone & Sons, 1815 West 74th street, manufacturers of corrugated paper boxes and containers, have plans for new plant in the Central Manufacturing District, where tract of land, 300 x 500 feet, has been acquired. It will be one-story, 300 x 500 feet, covering the entire area noted, with a section, 80 x 300 feet and 50 feet high, to be used for raw material storage and distribution. A traveling crane and other mechanical-handling facilities will be installed in the latter portion of the structure. Another section of the building, totaling about 5000 square feet of floor space, will be used for office service, and an air-conditioning system will be provided for this division. Company will remove present plant to new location as soon as building is ready for occupancy and will install equipment and facilities for large increased capacity. Plant is estimated to cost about $500,000, including equipment. Bids have been asked on general erection contract and it is proposed to begin work on superstructure before the close of the year. A. Epstein, 2001 West Pershing road, Chicago, is engineer.

**Los Angeles, Cal.**—The Pioneer Division of Flintkote Company, 5500 South Alameda street, Vernon district, manufacturer of liner boards, coated board stocks, roofing papers, etc., has approved plans for new addition to mill, to be one-story, 270 x 350 feet, located on site at 2051 East Fifty-fifth street. It will be used for general production, with equipment installation for considerable increase in present output. A portion of the new unit will be reserved for storage and distributing division. It is estimated to cost close to $175,000, with equipment. General erection contract has been awarded to the Austin Company of California, Inc., 777 East Washington boulevard, Los Angeles, and work is scheduled to begin at early date.

**Worcester, Mass.**—The Sherman Envelope Company, 31 Prescott street, manufacturer of commercial envelopes, etc., has filed plans for alterations and improvements in plant, including, a new roof over factory at second-story level and other work. No estimate of cost has been announced. Contract for work has been awarded to the Thomas Mulcare Corporation, 66 Weston avenue, Boston, Mass., and will be placed under way at once.

**Newton, Mass.**—The G. & S. Paper Company, 93 West street, general paper goods, has plans under way for new building on local site on Watertown street. It will be one-story and basement, 75 x 170 feet, used for storage and distribution, and other operating service. New structure is estimated to cost approximately $60,000, including equipment. C. S. J. White, 199 Harvard circle, Newton, is architect. Bids are scheduled to be asked soon on general erection contract.

**Chattanooga, Tenn.**—The Star Box and Printing Company, 1414 Chestnut street, manufacturer of corrugated paper boxes and containers, is beginning work on erection of new plant addition, previously referred to in these columns, to be one-story, 300 x 500 feet, estimated to cost over $350,000, with equipment. A list of machinery to be installed has been arranged, providing for about double the present capacity. It is proposed to have the new building ready for occupancy early next year. The H. K. Ferguson Company, Hanna Building, Cleveland, Ohio, has general erection contract.

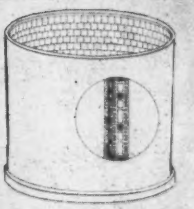
**Chicago, Ill.**—Extensive facilities for storage and handling of paper stocks will be provided by R. H. Donnelley & Sons Company, 350 East Cermak road, printers, operating the Lakeside Press, in connection with new plant at East Twenty-first street and South Calumet avenue. Company has made application for permission to construct a tunnel under South Calumet avenue to transport paper from cars of the Illinois Central Railroad to plant, and will install complete conveying equipment, hoists, loaders and other mechanical handling apparatus for bulk shipments. The new plant will represent an investment of about $400,000. Albert Kahn, Inc., New Center building, Detroit, Mich., is architect and engineer.

**Seaford, Del.**—E. I. du Pont de Nemours & Co., Inc., Rayon Division, duPont Building, Wilmington, Del., will begin work in December on proposed new mill at Seaford, where large tract of land has been acquired, as recently noted in these columns, and it is expected that close to 12 months will be required for ultimate completion of project. The plant will be given over to the production of a new synthetic fiber, known as "Nylon", and company has formed the Nylon Division of the Rayon Department to operate the new mill and handle sales of the material. The plant will comprise several large one- and multi-story units, with power house, pumping station and other mechanical departments, and will have facilities for employment of about 1000 persons in different production divisions. It is estimated to cost approximately $7,000,000, with ma-

Hollow Tile Tank

SEMCO LININGS

Hewett Construction


Concrete Tile Tank

SEMCO

Digester

ARE

Accumulator

SEMCO

Tile Lined Beater

BETTER LININGS

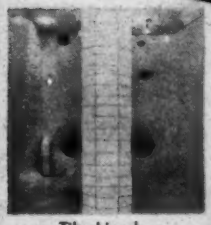
Acid Tower

Brick-lined Concrete Acid Storage Tank

FOR

Washer Vat Under Construction

EVERY


Tile Lined Storage Chest

NEED

SEMCO

Stebbins Engineering and Manufacturing Company

WATERTOWN, NEW YORK

chinery. Company engineering department, first noted address, is in charge.

**Hillside, N. J.**—The Mundet Cork Corporation, 501 Bloy street, Hillside, near Newark, manufacturer of insulation products, linings, etc., has superstructure under way for new one-story addition to plant, 100 x 324 feet, for which general erection contract was awarded recently to the White Construction Company, 95 Madison avenue, New York, N. Y., and will push the structure to early completion, when equipment will be installed for increased capacity. It is estimated to cost in excess of $80,000, with machinery. Main offices of company are at 65 South Eleventh street, Brooklyn, N. Y.

**New Westminster, B. C.**—The Westminster Paper Company, Ltd., has approved plans for new addition to mill, to be three-story and basement, 90 x 108 feet, reported to cost over $70,000, with equipment. General erection contract has been awarded to the Dominion Construction Company, Ltd., 509 Richards street, Vancouver, B. C., and work is scheduled to begin at once.

**Corner Brook, Newfoundland**—Bowater-Lloyd Newfoundland, Ltd., operating the former sulphite pulp and paper mill of the International Power and Paper Company at Corner Brook, acquired a few months ago, is said to have plans maturing for large addition to mill, forming another production unit. Bids will be asked soon on general erection contract. Project will consist of several large production units, for extensive increase in present capacity, and is estimated to cost over $5,000,000, with equipment. Company is a subsidiary of Bowater's Paper Mills, Ltd., 121 Queen Victoria street, London, England, and was formed last summer with an operating capacity of $2,500,000.

## Southeastern Paper Association Meets

At the call of President, H. T. Adams, a meeting of the Southeastern Paper Trade Association was held on Friday, November 4, at the King Cotton Hotel, Greensboro, N. C. There was an exceptionally good attendance comprising 15 representatives from 12 different paper houses in the Southeastern Association territory. Among the members present were the following: Raymond Straus—American Paper Company, Richmond, Va.; Jack Caskie—Caskie Paper Company, Lynchburg, Va.; Hugh Boyer—Caskie Paper Company, Charlotte, N. C.; A. R. Shaw, Jr.—Caskie Paper Company, Charlotte, N. C.; Stark Dillard—Dillard Paper Company, Greensboro, N. C.; Ran Morrissett—Dillard Paper Company, Greensboro, N. C.; Travis Epes—Epes Fitzgerald Paper Company, Richmond, Va.; T. C. McNeil—McNeil Paper Company, Charlotte, N. C.; R. S. Johnston—Old Dominion Paper Company, Norfolk, Va.; B. W. Lipscomb—Richmond Paper Company, Richmond, Va.; Larry Widman—Southern Paper Products Company, Asheville, N. C.; J. L. Buchanan—United Paper Company, Richmond, Va.; H. T. Adams—B. W. Wilson Paper Company, Richmond, Va.; A. L. Fitzgerald—Epes Fitzgerald Paper Company, Columbia, S. C.

In addition to considerable discussion of local conditions and problems which should prove helpful, a great deal of interest was also shown in subjects of national scope including mill selling policies and plans for organized effort reported by the delegates Larry Widman of the Southern Paper Products Company, Asheville, N. C. and Stark Dillard of the Dillard Paper Company, Greensboro, N. C., to the recent national convention in Chicago.

Many of the members informally emphasized the need for a fully recruited Wrapping Paper Merchants organization and collective approach to problems involving national legislation and federal jurisdiction over business operations.

The meeting was held in connection with a visit of A. R. Jackson, wrapping division secretary of the National Paper Trade Association who addressed the members regarding national activities, plans for membership promotion and constructive program discussed at the Chicago Semi-annual convention.

Plans for carrying out an extensive drive for members in the territory covered by this association were made and the members were all enthusiastic about their program for the future and expect some real results from efforts to be put forth.

## Crossett Mills Increases Sales Force

In keeping with the policy of the Crossett Paper Mills to distribute through its own sales force, it was announced this week that the arrangement under which the H. J. Andrews Paper Company had represented the Crossett Paper Mills in certain territories had been discontinued.

R. E. McLennan, or "Bob," as he has been known in the trade, who has been located at the mill at Crossett, Ark., since operations started, has been transferred to the sales force. Bob will personally handle all the Crossett lines for Tennessee, Mississippi, Oklahoma, Louisiana, Arkansas, and Texas.

Since the concentration of the mill on wrapping and converting grades of kraft paper under the skillful direction of E. A. Charlton, who joined the mill as general manager on May 1, the results have been gratifying both to Crossett and their customers.

Crossett's policy of distributing wrapping grades on a one-price basis only through recognized merchants has been enthusiastically received by the merchant trade.

## Forbids Infringement of Stonite Patent

In an action for infringement of the patent for Stonite press rolls in the case of Stowe-Woodward, Inc., vs. Cincinnati Rubber Manufacturing Company before the U. S. District Court of Ohio, Western Division, the court has just sustained the validity of the patent and granted a permanent injunction forbidding further infringement. Hon. John H. Druffel, District Judge presided.

In handing down the decision, the court found that "with the invention and introduction of the plaintiff's Stonite roll, the difficulties experienced by paper manufacturers in the use of various type rolls in top press position were obviated; the paper manufacturing trade has generally accepted and acquiesced in the novelty and usefulness of the Stonite roll and it is now in use in 31 countries; original users are re-ordering and some mills contemplate the use of 'Stonite' rolls exclusively." The decision was based largely on testimony presented to the court by paper manufacturers who have used Stonite rolls.

The Stonite patent covers the manufacture of rolls from rubber and granulated stone composite and the rolls are generally used as top press or smoothing rolls.

Kappa Company Sales
Up 32% For Year
A simple change in financing opened the way to a re-
shrinkage found it operating at a loss and short of work-
ing capital.
EARNINGS RESTORED

# $2,417,000 More Volume and 4.8% Net Profit on Sales Follow Change in Financing

A SIMPLE change in financing opened the way to a remarkable upward surge for the KAPPA* Company.

Sales volume had dropped to $7,583,000 in 1935. Geared to do twice that volume, the shrinkage found the company operating at a loss and short of working capital.

In three years, with our accounts receivable plan providing a continuous, ample fund of cash, these were the results:

- ★ Annual sales volume was up 32% to $10,000,000
- ★ Net worth was nearly 20% greater
- ★ Net operating profit was 4.8% of sales

Investigation of our accounts receivable financing plan convinced the KAPPA executives that it was practically tailor-made to fit their needs.

They weighed the advantages of non-notification (discounting receivables without having to notify the debtors); of non-interference with their credit supervision, customer relations or management.

They analyzed the cost and found it low. The advantage of discounting only in amounts and for periods of current needs compared favorably with long term loans which necessitated the accumulation and earmarking of cash to meet maturities.

They still choose to discount their receivables with us because this kind of banking gives them greater liquidity, makes it easy to finance profitable new business without delays or hampering limitations.

★ ★ ★

**The advantages of accounts receivable financing are not limited to situations where pressing financial difficulties are the main consideration. Greater liquidity will enable you to do more business on your present capital, increasing your profits without increasing investment; buy raw materials; meet tax payments or payrolls without borrowing. Our booklet, "CAPITAL AT WORK" will explain how. A free copy will be mailed on request.**

**A fictitious name, but the facts are taken from actual records in our files and can be certified.*

## COMMERCIAL CREDIT COMPANY

*Open Account Financing*

BALTIMORE

NEW YORK CHICAGO SAN FRANCISCO PORTLAND, ORE.

CAPITAL AND SURPLUS MORE THAN $65,000,000

PAPER TRADE JOURNAL
ESTABLISHED 1872

Reg. U. S. Pat. Off.

*George S. Macdonald, Pres.* *Joseph P. Horgan, Secy.*
Executive and Editorial Offices, 15 West 47th St., New York, N. Y.

Henry J. Berger
*EDITOR*

Ronald G. Macdonald
*Editor Technical Section*

Lynne M. Lamm
*Washington Correspondent*

Per Copy, 10 cents — United States, Per Annum, $4.00
Canada and Foreign Countries in Postal Union, $6.00

Member Audit Bureau of Circulations

Vol. CVII New York, November 10, 1938 No. 19

## COMING EVENTS IN THE PAPER INDUSTRY

NEW ENGLAND SECTION. Technical Association of the Pulp and Paper Industry—Third Friday of each month at the Nonotuck Hotel, Holyoke, Mass.

DELAWARE VALLEY SECTION. Technical Association of the Pulp and Paper Industry—Second Friday of each month at the Engineers Club, Philadelphia, Pa.

LAKE STATES SECTION. Technical Association of the Pulp and Paper Industry—Second Tuesday of each month at the Conway Hotel, Appleton, Wis.

KALAMAZOO VALLEY SECTION. Technical Association of the Pulp and Paper Industry—First Thursday of each month at the Park, American Hotel, Kalamazoo, Mich.

## EFFECT OF WAGE-HOUR LAW

The Wages and Hours provisions of the Fair Labor Standards Act which became a law on October 24, has been in effect for too brief a period to test any of the merits which its sponsors claim for this late piece of New Deal legislation. The New Deal in all its component parts is a radical departure from the democratic ideal and theory expounded by Thomas Jefferson. And in common with all innovations in government, this new edition of the NRA principles must inevitably meet with prejudice and head-shaking until such time has passed that the act itself will have proved its economic value or, as in so many other New Deal experiments, it shall pass without regret into the limbo of other visionary schemes.

As the law now stands, its effect on major industries, such as pulp and paper, is of relatively small importance. One leading company reports that 40 per cent of its employees were affected and that some adjustment would be necessary should their work-hours accumulate overtime when the mill was operated at capacity. As this company has union agreements covering payment of time-and-a-half for overtime, the new wage-hour law will have little effect on the company.

Another leading paper manufacturer said its company anticipated more employees would be required through the new law's requirement of a 44-hour week. The manager stated that the law was the biggest and broadest program ever attempted to cover industry and that a large amount of detail must be handled in recording the work in the mills.

In general, the wage-hour provisions will affect about 1,500,000 workers in a total of about 32,333,333 in the nation. In other words, less than 1 in 20 workers are affected and about 1,500,000 workers will work shorter hours or receive higher wages. The great majority of workers are, therefore, not directly affected by the law. In commenting on the probable effect of this ambitious attempt of the Administration to subject industry to more political control, the Guaranty Trust Company of New York in its survey of business on October 31, said in part: "Those entrusted with the execution of the law are prepared to observe its results closely. It is recognized that the measure introduces into our economic system a set of changes that may have the most profound effects on the course of industry and commerce and that the nature and extent of those effects will determine whether the plan suffers early extinction, like the NRA, or develops into a permanent feature of our industrial structure. Some observers fear that the law, even under the most conservative administration, will result in such serious difficulties for some industries that its application will have to be greatly restricted, if not abandoned entirely. If serious maladjustment is caused, the experiment can be abandoned, although not without having inflicted heavy losses through industrial curtailment." And it is to be hoped that the ultimate result will not prove as costly a failure to industry as the Administration's experiment to stabilize the prices of farm crops which, after the expenditure of several billions of dollars, have fallen very nearly to their formal levels and the experiment is now being "sold" to the farmers again under a new name with a modification of the same theoretical principles.

In commenting upon the opinion given by the counsel of the National Association of Manufacturers, Elmer F. Andrews, the Administrator of the wages and hours act, held that contention wrong and warned employers that attempts to defeat the purposes of the law by various devices might bring forth a more drastic law in the next Congress. Salary pay was the issue. John C. Gall, counsel for the Association held that the act permitted employment of salaried workers for more than a 44-hour week at their existing weekly compensation, if the base rate was not less than 25 cents an hour for the first 44 hours, and not less than 37½ cents (or time and a half) for the remaining hours. Mr. Gall asked for a ruling by which it could be determined whether certain employees were covered by the law.

Mr. Gall contended that although the act was being applied to salaried employees as well as wage workers, the word "salary" was not mentioned in it. He assumed salary workers were included in the overtime provision, but expressed the view that if the employer could not modify the basic rate so as to work salaried employees for the same weekly hours as before, at the same total compensation, the employer was "forever prevented from lowering a present wage rate even if it resulted in no lowering of total compensation." He also maintained that, if this view prevailed, it would operate as an inducement to an unscrupulous employer to discharge present employees and to employ new ones, in which case the law clearly permitted a base wage of 25 cents for the first 44 hours and 37½ cents thereafter.

In his reply Mr. Andrews said that the act had the two-fold purpose of laying a floor for wages and achieving a shorter work week. "Congress refrained from taking the more drastic step of prescribing an absolute maximum work week, but made it unlawful for an employer to work an employee for longer than 44 hours a week unless such employee receives compensation for his employment in excess of the hours above specified at a rate of not less than one and one-half times the regular rate at which he is employed. Congress thus made it economically disadvantageous to an employer to maintain a work week in excess of forty-four hours. The expectation evidently was that this provision would tend to bring down the customary work week to forty-four hours. The question now is whether this expectation can be defeated by various devices, with the probable result the coming Congress will renew consideration of more far-reaching proposals."

The case against the wages and hours act has thus early come up for controversial hearing before the proper jury—the public—and while the great majority of employers will make every effort to abide with all the provisions of this new law, few employers can be expected to cheer it. Many intelligent people believe that Federal control of wages and hours is a step in the wrong direction for American progress and that it is a step away from the competitive system of industrial progress which has made this country the largest in the world. But today it is futile to attempt to evaluate a new law only ten days old —an infant in swaddling clothes—and it appears equally futile for anyone to attempt to prophesy and forecast its effect on wages and prices. It may be that it will raise the general compensation of workers and at the same time raise prices, so that while a worker earns more he must pay more for goods in exchange for the extra dollars. Controversies are likely to arise over the interpretation of some of its provisions as phrased, but only time can appraise the true economic value of the wages and hours act.

## Production Ratio Report

These statistics are based upon paper production reports to the American Paper and Pulp Association.

COMPARATIVE MONTHLY SUMMARIES

| Months | 1938(c) | 1937(c) | 1936 | 1935 | 1934 |
|---|---|---|---|---|---|
| January | 63.9% | 90.3% | 76.1% | 65.8% | ..... |
| February | 68.7 | 90.1 | 77.9 | 70.0 | ..... |
| March | 69.6 | 90.3 | 76.0 | 76.5 | ..... |
| April | 68.3 | 92.1 | 82.3 | 70.0 | ..... |
| May | 69.0 | 90.6 | 81.6 | 69.4 | ..... |
| June | 66.0 | 87.3 | 80.7 | 72.3 | ..... |
| July | 72.0 | 81.8 | 77.3 | 64.9 | ..... |
| August | 77.2 | 82.9 | 81.5 | 70.9 | ..... |
| September | 76.3 | 78.6 | 80.5 | 71.9 | 58.2% |
| October | ..... | 73.5 | 87.6 | 75.6 | 64.7 |
| November | ..... | 61.9 | 88.0 | 75.3 | 61.7 |
| December | ..... | 54.5 | 85.9 | 71.2 | 59.6 |
| Year Average | ..... | 80.6% | 81.3% | 70.5% | ..... |
| First 43 weeks | 71.2% | 85.6% | 80.2% | 70.0% | ..... |

COMPARATIVE WEEKLY SUMMARIES

| Current Weeks, 1938 | | Corresponding Weeks, 1937 | |
|---|---|---|---|
| *September 24 | 78.5% | September 25 | 81.9% |
| *October 1 | 80.9 | October 2 | 79.1 |
| *October 8 | 81.6 | October 9 | 77.0 |
| *October 15 | 82.3 | October 16 | 74.8 |
| *October 22 | 83.6 | October 23 | 73.6 |
| *October 29 | 82.6 | October 30 | 68.8 |

The following statistics show the number of mills reporting by ratio groups:

NUMBER OF MILLS REPORTING, CURRENT WEEKS

| Ratio Limits | Sept. 24 1938 | Oct. 1 1938 | Oct. 8 1938 | Oct. 15 1938 | Oct. 22 1938 | Oct. 29 1938 |
|---|---|---|---|---|---|---|
| 0% to 50% | 110 | 71 | 56 | 61 | 54 | 45 |
| 51% to 100% | 196 | 233 | 247 | 237 | 237 | 160 |
| Total Mills Reporting | 306 | 304 | 303 | 298 | 291 | 205 |

* Subject to revision until all reports are received.
(c) Basic capacity data have been adjusted to correspond with ratings reported by individual companies.

### Paperboard Operating Ratios

According to reports from the National Paperboard Association, per cents of operation, based on "Inch-Hours", were as follows:

| Months | 1938 (e) | 1937 (e) | 1936 | 1935 | Months | 1938 (e) | 1937 (e) | 1936 | 1935 |
|---|---|---|---|---|---|---|---|---|---|
| Jan. | 55% | 80% | 61% | 61% | July | 57% | 67% | 69% | 59% |
| Feb. | 61 | 86 | 67 | 67 | Aug. | 66 | 74 | 75 | 65 |
| March | 60 | 87 | 68 | 67 | Sept. | 66 | 70 | 76 | 69 |
| April | 57 | 89 | 70 | 61 | Oct. | .. | 66 | 82 | 76 |
| May | 58 | 86 | 68 | 61 | Nov. | .. | 56 | 79 | 70 |
| June | 56 | 75 | 68 | 65 | Dec. | .. | 46 | 74 | 60 |
| Week end. Sept. 24, 1938 | | | | 68% | Week end. Oct. 15, 1938 | | | | 70% |
| Week end. Oct. 1, 1938 | | | | 69 | Week end. Oct. 22, 1938 | | | | 70 |
| Week end. Oct. 8, 1938 | | | | 70 | Week end. Oct. 29, 1938 | | | | 69 |

(e) Basic figures revised to include new members of the National Paperboard Assn.

## J. J. Herb Honored

VANCOUVER, B. C., November 7, 1938—Celebrating fifty years in paper manufacturing, J. J. Herb, president of the Westminster Paper Company Ltd., New Westminster, B. C., and the Pacific Coast Paper Mills, Bellingham, Wash., was guest of honor at a dinner in Terminal City Club, Vancouver, B. C., recently. Presentation of a handsome shotgun was made to Mr. Herb, who is leaving on a hunting trip to the Cariboo.

Mr. Herb's paper career started as a 15-year-old boy in Wisconsin. In 1912 he came to Ontario and ten years later to New Westminster when he founded the Westminster Paper Company. Since 1927 when the Bellingham subsidiary company commenced operating, Mr. Herb has lived in that city.

Three sons are following in their father's footsteps. Elmer Herb is vice-president and general manager of the Westminster company while P. J. Herb holds a similar position in the Bellingham company and Francis Herb is in Seattle as sales manager.

# Have you tested the new

New Jersey zinc

# ZINC SULFIDE

## CRYPTONE ZS-30

## FOR THE PAPER INDUSTRY

*It's better in*

- COLOR
- BRIGHTNESS
- OPACITY
- VALUE

THE NEW JERSEY ZINC COMPANY
160 Front Street New York, N. Y.

Please send a ____lb. sample of your new ZINC SULFIDE, Cryptone ZS-30 to:

Name_____

Address_____

Section of the Technical Association of the Pulp and Paper Industry

Edited by Ronald G. Macdonald, Secretary

# Review Of The Paper Industry Literature

Abstracts Compiled By the Abstracts and Bibliography Committee of the Technical Association of the Pulp and Paper Industry, A. Papineau-Couture, John F. Ohlson, C. E. Peterson and Clarence J. West, Chairman.

**Copies of United States Patents can be obtained from the United States Patent Office, Washington, D. C., for 10 cents each. Send currency, not stamps.**

## Paper Specialties

**Reinforced Metallized Paper.** J. A. Ruttiens. Belg. pat. 422,063 (July 31, 1937).—A thin sheet of metal is reinforced by a wire fabric or network pasted to it by means of a transparent sheet of paper. The wire network may be pasted directly on a sheet of metallized paper.—A.P.-C.

**Coating Paper Containers.** Georges Lacour. Fr. pat. 818,282 (Sept. 22, 1937).—Latex to which at least one tanning agent, e.g., tannin, gallic or pyrogallic acid, or catechol, has been added is used. Odor is thereby eliminated, a better adherence of the latex is obtained, and greater mechanical resistance.—A. P.-C.

**Pulp Articles.** Pappenguss Gesellschaft für Zellstoff-fabrikate m.b.H. Brit. pat. 472,544 (Sept. 21, 1937).—In molding hollow articles from pulp with a mold comprising a female and a male die, layers of fibrous material are deposited on both dies, while the male die is withdrawn from the female, and the two layers are united by moving the male die into the female. Both dies have liquid-permeable walls.—A.P.-C.

**The Handling of Blotter Printing.** J. J. Hallowell. Pulp Paper Mag. Can. 39:239 (Feb., 1938).—A brief discussion of means and devices which should be used in order to obtain optimum results.—A.P.-C.

**Washable Wall Paper.** Ruth E. Bright, assignor to Paper Patents Co. Can. pat. 370,121 (Nov. 23, 1937).—To a sheet of paper, decorated while on the paper machine, is applied a translucent, water-insoluble protein coating, the coating is treated with formaldehyde, and the sheet softened, and then printed with a water-insoluble ink. An apparatus is specified.—A.P.-C.

**Process for the Production ot Heavy Cardboard from Cellulosic Materials, More Particularly Straw.** Cooperatieve Vereeniging Cooperatieve Stroocartonfabriek "De Eendracht". Belg. pat. 422,-501 (Aug. 31, 1937).—Straw cooked with milk of lime at a temperature above 100°C. is treated with acids to a pH of 6 to 6.5, and then is again rendered slightly alkaline.—A.P.-C.

**Quality Control As Applied to a Paperboard Mill.** R. H. Rositzke. Paper Trade J. 106, No. 13:36-46 (March 31, 1938).—A general discussion of the problems involved in the control and maintenance of quality in paperboard mills.—A.P.-C.

**The Manufacture of Creped Paper.** August Koebig. Pulp Paper Mag. Can. 39:237-238 (Feb., 1938).—A brief description of machinery for making creped paper constructed by the Koebig company, Dresden, Germany.—A.P.-C.

**Unshrinkable Paper Composed of Waterproofed Fibers.** American Re-enforced Paper Co. Fr. pat. 821,840.—Paper is impregnated with a solution of formaldehyde (about 22 parts of the 40% solution), urea (3 parts), and ammonium thiocyanate (2 parts) per 73 parts of water. The excess of solution is removed, and the paper is treated to insolubilize the urea-formaldehyde resin.

**Paper.** Société Anonyme des Manufactures de Glaces et Produits Chimiques de Saint-Gobain, Chauny et Cirey. Fr. pat. 817,812 (Sept. 11, 1937).—Vitreous substances in a divided form, e.g., glass fibers, are mixed with paper pulp during manufacture.—A.P.-C.

**Washable Playing Card.** B. Engel. Belg. pat. 421,397 (July 31, 1937).—The card is made of chemical wood pulp paper; the central ply consists of a mixture of short-fibered chemical wood pulp and groundwood.—A.P.-C.

**Composite Wall Paper.** Léonard Fils & Cie. Belg. pat. 423,316 (Sept. 30, 1937).—Metal-surfaced wall paper is pierced throughout its whole thickness with numerous small holes which permit the moisture of the size to escape towards the outer metallized surface.—A.P.-C.

**New Type of Cardboard.** Léonardo Garcia. Fr. pat. 820,575.—Kieselguhr and silicate of soda are added to the furnish in the beater. Products of varying degrees of hardness are obtained according to the proportions of gieselguhr and silicate. Waterproofing may be obtained by adding insoluble sizes or stearates to the furnish.—A.P.-C.

**Drying Cardboard In Sheets.** Jean Rathier. Papier 40:1031-1032 (Dec., 1937).—A brief outline of the evolution of the drying of cardboard in sheets. The direct use of furnace gases, instead of steam, in tunnel driers, is suggested.—A.P.-C.

# Trends in the Waste Paper Industry*

By P. M. Loddengaard[1]

Waste paper, as we all know it, comes from various sources: office buildings, factories, loft buildings and newspaper publishers and it is also gathered by the junk man who goes from house to house in the residential districts with his horse and wagon. Aside from the publishers, these travelling junkmen provide by far the bulk of newspaper and magazines. During good weather these men go out every day and bring in rags as well as the two grades of paper mentioned above. When the weather is bad, particularly in winter, of course they do not go out to the same extent and the receipts of these two grades of material naturally falls off. Except for the small quantity which is burned in the remaining coal burning furnaces at home, most of it remains with the householders and comes out in lange quantities, like frogs, in the spring. At that time the paper mills normally replenish their inventories against the July to September vacation period when the tonnage of these two grades drops off again. The circulation of the newspapers also drop off, which will in part, account for the increase of price which we normally have during the summer months. The material which we neglect (by 'neglect,' I mean that we fail to recognize the fact that we should do something to encourage the steady flow of the material from the producer to the consumer) is mixed papers. Unlike newspapers and book stock which must be sought after by travelling in an ever widening circle to obtain increased supplies, these mixed papers must move every day from the various office buildings and factories, because they constitute a very definite fire hazard. From these office buildings, factories, and other industrial plants producing what we call bag waste, there is sorted ledger stock, kraft paper, some books and some newspapers, but the bulk of it is packed as a conglomerated mass and is called mixed papers. Specifications of this grade and all others can be obtained from the National Association of Waste Material Dealers.

In 1932 some board mills who needed business and who did not like to be known as price cutters, made what was called "light colored chip." The box makers very soon "discovered" that "light colored chip" was news board with a mixed paper middle. As a matter of fact, it was a grade used in New England in large quantities and called "filled news." Top and bottom liners obtained their cleanliness from the use of newspaper and the strength from the use of the mixed paper in the middle. This situation caused an unbalanced demand for news, while mixed papers were being thrown away because there was no market large enough to absorb the available supply. In the meanwhile, the price of news skyrocketed to ridiculous levels. As far as mixed paper was concerned, it was being dumped on the city dumps and incinerators, and the waste paper dealers had to pay for the privilege of dumping this material. Many of you may already be aware of this, but for the benefit of those who are not, thousands of tons of waste paper are packed in this city every year for which the waste paper man pays nothing. He is paid by the producer (buildings, etc.) to have it removed. That is nothing new, but has been going on for many years in certain sections of this city. In other sections, however, ridiculous competitive bidding by one dealer against the other has reduced some of them to a point where if they could go home with the rent and food money at the end of the week, they were lucky. These same packers have had to resort to every means possible to overcome this situation by cutting down on the labor required for sorting, and this resulted in poor paper. At this time, I am going to read a short resumé of the situation as it existed about 5 years ago. This happens to be a reprint of a short talk before the Superintendents at their Philadelphia meeting, I believe in September, 1933. The reason I want to read this now is to call your attention to the fact that conditions are no better today from the standpoint of quality than it was then.

## Conditions Five Years Ago

Let us trace rather roughly the course of the waste paper market, using the lowest grade—mixed papers, as an example, from early this year up to the present time. During the first few months of the year waste paper prices were very low, due to lack of any real demand — particularly for mixed papers. The result was a gradual drying up of available supplies. This was aggravated by the unwillingness of many mills to build up inventories because they did not realize that in a little while a demand might be created for their product, which, in turn, would create a demand for the raw material from which it is made.

During the time that the waste paper prices were low the quality of material was good. It was good, due primarily to the fact that there was more paper available than was needed. It brought about a competitive situation that caused all producers of material to compete with each other for available orders. The mills, having plenty of paper offered to them, became very particular and rejected materials that they felt were inferior and not up to the specifications.

There have been some times when paper was purchased at one price and the market fell off very sharply and all manner of fault was found with paper stock that had been acceptable *prior* to the drop in price. These rejections may have been perfectly legitimate rejections. The waste paper dealer, however, feels, in a case like this, that if the material was acceptable a couple of weeks before it should be acceptable at all times. Further reference will be made further along to the evils of this particular situation.

When the demand was created in the early spring almost every mill attempted to buy at the same time.

---

* Presented at the Annual Meeting of the Technical Association of the Pulp and Paper Industry, Waldorf-Astoria Hotel, New York N. Y., Feb. 21-24, 1938.

[1] Bulkley, Dunton & Co., New York, N. Y.

All competed with each other in an effort to purchase something that had not yet been made available.

Waste paper, as you know, has no value whatsoever when it is in the waste basket or the rubbish box of an office building or a factory. It is not until some waste paper man collects, transports, sorts and grades this material that it has any real value to the paper mill. This paper must be baled in modern equipment in order to be shipped to the consuming mill so that it can be used.

Before this process (collecting, etc.) had been completed, many paper mills attempted to buy thousands of tons where only hundreds were available. It takes time to reestablish the orderly process of collection, transportation and baling of material that had previously been refused and sent to the dumps, or burned, or in some other way destroyed.

During this very highly competitive period demands were made upon the waste paper dealer greatly in excess of his ability to produce, insofar as tonnage was concerned. Prices sky-rocketed. Children out of school during the vacation period, unemployed men who lived in the various "shanty towns," and many other people used baby carriages, push-carts, wagons, in fact anything by which this material could be transported, to gather it from every available source. It was picked from the garbage cans, rubbish heaps, as well as actually purchased from the house-holder, janitor and factory. Many unscrupulous packers wet the bales of paper. In addition, the rubbish was left in and, in many cases, more added. In other words, the unscrupulous dealer had "his innings." This can all be stopped — with the help of the mill man.

With the rising prices, instead of the quality of the material improving, it became worse. Some of it was so bad that it wasn't fit to be shipped anywhere except to an incinerator or a dump. Yet the superintendent was compelled to use this material. I should not use the word "compelled" because it really isn't a proper term. The superintendent was told that if he did not accept the paper somebody else would. The result was that he attempted to use much material that caused him difficulty throughout the mill. In other words, the superintendent tried to do his part in cooperating with the executive and buyer of the plant because the buyer or executive told the superintendent that poor paper was all he could get, and that was the only material that was available.

When the material is purchased, normally the purchasing agent's responsibility ceases, particularly if the superintendent accepts the material and uses it without a murmur. A superintendent might feel that he is doing the waste paper industry a favor by accepting junk and attempting to use it. *That is not so.* You can spoil a waste paper dealer the same way as you can spoil a child. Without discipline of some kind the waste paper dealer will *never* improve the quality of the paper which he ships. He will only ship that which you *compel him to.*

There are many legitimate dealers and packers in this business, who are penalized because many unscrupulous dealers are able to sell their material at the same price that the legitimate packer can get for his. The discipline that should be meted out to the waste paper dealer, when material is not up to specification, is an out and out rejection, with no allowance being accepted of any kind. This may seem drastic, but is absolutely the only way to cure the situation. However, in addition to a rejection being the cure, the material that is rejected should not be accepted by any other plant.

When this material is rejected you must be very careful to determine under what specification it was purchased, in order that an unfair rejection be avoided. If confidence is to be built up between the paper mill and the legitimate high class waste paper dealer, material must be packed and delivered in accordance with specification. The rejection must be made on that basis only. The weapon of rejection should not be used in an attempt to cover up a poor purchase when the market goes against the buyer. Fortunately, this happens in very few cases and possibly it was not necessary to call it to your attention.

I will cite an example of one mill not far from New York City that rejected four loads of mixed paper because the quality was inferior to that which they had purchased. This material, instead of being delivered back into the packer's plant for resorting and cleaning, was distributed to four different paper mills. Each one of these mills accepted the material and used it without comment. In a situation of this kind there is evidence that there is something seriously wrong. For example, if the first mill (who rejected the material) did it unfairly, the waste paper man would at some later date await his opportunity to "get even." However, in this particular case the material was *not* as purchased. The superintendent of this particular mill had the courage to reject it. The other plants were short of material. The mill that rejected the paper was also short of paper stock, but they were adhering to a very definite principle of purchasing good material and expecting to accept and use it when it arrived.

The paper stock dealers, who delivered the material to the other mills, who received and accepted it, felt that the supervision in these plants was faulty and they would take advantage of further opportunities to deliver material that was no good. Word is soon passed throughout the trade that in such and such a mill you can "get away with murder." This particular mill will then get the junk and the mill that demands good material usually gets it and pays *no more money* than the one who tries to be a *good fellow* and use the junk.

### Container Manilas

There is one particular grade that is very much abused at this moment, and that is the so-called container manila. The average waste paper plant packs but one grade of mixed papers. If the material comes from a certain section or certain type of source and has a preponderance of hard stock in it, it is sold for *either* mixed papers or container manilas, whichever the case may be. In other words, if John Jones wanted to buy container manilas, he would receive the *same* material that Sam Smith would get if he bought mixed papers. This is due again to the fact that the superintendents have been too lenient in their acceptance of mixed papers that were shipped as container manilas.

I feel that any packer who honestly takes out the newspapers and box cuttings from his mixed papers and leaves a good hard container manila should be compensated for his efforts. I do not feel, however,

that it should be possible for any mill or group of mills to artificially affect a delicate waste paper market by paying container manila prices for mixed papers.

In order to illustrate what I have in mind, I will repeat a typical conversation that I have had many times with some waste paper dealers. The market, for the sake of argument, is $10.00 New York for mixed papers.

"Hello, Joe, what are you doing with your Mixed?"
"Oh, I am shipping them to the paper mill."
"What are you getting?"
"$12.00."
"$12.00 for mixed papers? Boy, that's some order."
"Well, you know, we call them Container Manilas, but it's the same old stuff that we ship every day for Mixed."

In this particular case the dealer who was shipping mixed papers to the paper mill and calling them container manilas was purchasing from various sources other mixed papers, but was paying $11.00 for the material, making a profit for himself, but making it extremely difficult for the other dealers, who were attempting to buy mixed papers at a price that would permit them to sell it at the market level of $10.00.

In one case the superintendent was being called upon to make good paper out of a material that was not in accordance with his needs, having in it a lot of objectionable material that should not be in the container manila grade.

In the second case it was creating a situation where the basic price level of mixed papers, which ultimately would affect the price of container manila also, was being raised due to the fact that too much leniency was shown in many plants in the acceptance of material that was not in accordance with specifications.

I am just using this one grade as an example, but what is true of this grade is true all the way along the line, up to the highest grade of shavings that are used in various paper plants.

"Shavings" of all kinds is another particularly important grade that meets with many different ideas as to quality and specification. I know of a mill who requires, and pays a premium for, a special grade of fly-leaf shavings. Nobody dares to ship this mill shavings that are not up to proper specifications. The balance of the material is left in its various forms for the rest of the mills, who can use it. It must be understood that fly-leaf shavings are just exactly what the name implies — paper that has been cut from the edge of magazines that will contain various colors on the cover, dependent upon the ideas of the artist or the advertiser, whichever the case may be. Many dealers are careless with their sorting and packing of shavings. Others are very careful and deliver what the mills purchase. Due to the various color combinations that are found in fly-leaf shavings, and the various percentages of these colors, it often is wise to purchase on the basis of samples.

An instance similar to the mixed paper episode happened on a truckload of hard shavings delivered to a nearby mill. The shavings were not in accordance with the ideas of the mill, that originally bought them. The load was rejected. It was delivered to another dealer in New York City, who paid $2.00 more for the material than the original mill purchased them for. This dealer, in turn, sold them to another dealer, who sold it to a mill, where the paper was accepted and used without comment. Either the first mill did not know what they wanted when they bought the shavings, or the second mill was a little careless in their examination of the material when it arrived.

This matter of specification on the lower grades of waste paper is something that has very definitely been worked out but on the higher grades there still are quite a number of different opinions as to what constitutes a good delivery of some of the specialties. This is something that the user, who is the superintendent must work out with his fellow superintendents in order to avoid much of the conflict and annoyance that occurs on both sides, due to misunderstandings.

### Allowances for Poor Quality

Getting back again to the matter of accepting n allowances due to poor quality, and rejecting the material instead, I want to point out what happens in one particular mill that I know of.

This mill makes a cut on practically every load of paper that is delivered to it. This has become general knowledge in the trade. The result is that when a carload of material is invoiced to this mill, weighing actually 30,000 pounds, it is invoiced at 34,000 pounds. The mill will then make its usual deduction of 2,000 pounds or thereabouts on general principles, but is actually suffering a loss of the additional 2,000 pounds. You can, therefore, see the dangers of getting a reputation for accepting allowances.

A few days ago a packer of newspapers walked into the office of a dealer, who shipped the packer's material to a distant paper mill. This mill had made very careful tests of the material and had made deductions based on excess moisture over the 10 per cent that they were allowing. This paper stock packer asked the dealer not to ship his material to that mill any longer, but wanted to ship it to any one of a number he named, who never made any complaints.

There has been a request on the part of paper mills for good material. Many responsible and legitimate paper stock packers and dealers have taken this request seriously and have made an honest effort to comply with the wishes of the consumer. When they see all around them evidences of paper being shipped and accepted by various paper mills that is junk compared to that which the responsible dealer prepares, it is very discouraging. Instead of an incentive to continue packing good paper, it may finally result in all of the packing deteriorating and when a good shipment arrives, it may be as a result of an accident.

The cure for this situation is in the hands of the user. The waste paper industry is made up of thousands of small packers, spread all over the country. Supplementing these small packers, who produce the bulk of the low grades of material, are the larger packers and dealers. These packers and dealers perform the very useful function of financing these smaller men, who must be paid from day to day. They also perform the function of accumulating small lots of materials from the little packers' plants and shipping the larger quantities needed by the mills. They also regrade and sort the higher qualities of paper stock so that the mills, to whom they ship

will obtain the material in accordance with their wishes. Many of them, in addition, supervise the packing of the little shop so that the material will be always good enough to ship to any mill.

One of the biggest drawbacks and deterrents to a universally acceptable grade of waste paper of any given specification has been the fact that when a little dealer is turned down by the big shipper because of inferior quality merchandise, he usually is able to ship the material direct to some paper mill, who is too lenient in the matter of insisting upon specifications being lived up to.

I realize that the superintendent does not buy the material. The superintendent can, however, to a very great extent, correct most of the evils that are now existing regarding improper grading of waste paper. At a time like last summer, when prices were high and quality poor, the superintendent was told on many occasions that the junk was all that was available and that good paper could not be procured. That was *not* so. It was only true as long as he would continue to accept it. There is no reason why a specification should be tampered with just because the price has changed.

Isn't it true that you had to live up to specifications in the manufacture of your finished paper regardless of where the price was?

It is true that there are times when more waste paper is demanded than is available at a given moment. This will gradually right itself because as the price goes up additional paper finally finds its way into the packer's plant and then to the mill. Many months of effort on the part of various people to correct poor packing is wasted when the mills begin to get careless in the acceptance of inferior materials. All the work of many months is undone in a few short weeks. Your shrinkage will increase. Troubles in your beater room will multiply because of foreign materials of one kind or another.

As was mentioned in one of the earlier paragraphs, when the price of waste paper is low, the quality is usually good due to the fact that the mills are taking advantage of the supply situation by being extremely careful in not only the inspection of the material, but in the selection of the sources from which the material is purchased.

As the demand increases, additional encouragement in the form of higher prices, is given to the waste paper dealer so that he may purchase material that was being destroyed because the original owner felt that the price was too low to justify his saving any of it.

Why, then, can you see any reason for the argument that because of a greater demand for paper, the quality gets poorer, even though the mill has agreed to pay the additional price in order that more material can be made available? It does not seem logical, does it?

Therefore, gentlemen, you have the answer in your hands and you should refuse—regardless of what you may be told—to accept material at any time that does not conform to the specifications set up. Eliminate from the picture the paradoxical situation that when waste paper is low in price it is high in quality, and the higher the price the poorer the quality.

### Virgin Pulp vs. Waste Paper

I claim that if all the waste paper available in this country was to be put in one big pile and drawn from as needed, that at the end of each year the pile would be greater than it was at the end of the previous one. No one has disputed that statement. Assuming therefore, that it has always been true, let us stop for a little while to consider what our situation is at this particular moment. I am purposely going to avoid specific figures today and I think you will understand why. The largest consumers of waste paper are the board mills, and it is from the board mills that the material comes to make boxes. It is a well known fact, that the consumption of paper to be used as containers of various kinds has been increasing steadily for many years. In the last few years, particularly the last two, there has been a great deal written and said about the new productive capacity in the southern part of this country. This increased tonnage, I believe, is far greater than the increase in the consumption of boxes. Now, just what does this mean? Isn't it reasonable to assume that when virgin timber is being used to make board for a box which had been previously made from waste paper that the waste paper normally consumed for that purpose would not be used? If we accept that as a fact, then isn't it also true, that the new ton of board made from virgin timber will in turn be another ton of waste paper after it has served its primary purpose of carrying the goods that it was designed to pack? Incidentally, it is very desirable waste paper and immediately frees other tonnages to be more carefully sorted. While standing here and trying to think out loud, don't you think that we are all passing up a bet if we do not take advantage at this time of the largest supply of waste paper that we have ever known by insisting that the material be made cleaner and more acceptable for use? I do not mean that we should take advantage of a situation like we have now and permit the price to go to $1.50 a ton all sorted and baled and expect indefinitely to have that tonnage, because that will not happen. If the price is kept too low so that the packers will not feel justified in sorting the material, it will then go to the incinerators.

There is no need, however, for the price ever to go very high.

Inasmuch as it is agreed that waste paper has no value until it is transported and sorted before baling, would it not be to our advantage but also to the advantage of the waste paper dealer for him to be paid for the removal of the material by the producer? This is nothing new. Then, whatever labor is necessary to add to this material to make it acceptable to the mill, could be charged to the buyer and would be sufficient compensation for the paperstock dealer to receive because his profit could then come from the service charge to the producer of the waste paper. This has been advocated many times by the sound and conservative members of the paper stock trade who realize that the board mills must have low priced raw material. I know this is going to cause quite a howl from the various office buildings and hotels, but after all, what are they going to do with the material? The street cleaners won't take it away, and the fire insurance rates on their buildings immediately go up when incinerators are installed. We need the waste paper man and the producers of the waste also need him, but there is no reason why we should foot the whole bill and at the same time get

material unfit for use. Some years ago, production of the average board mill was cut down considerably when they received dirty paper; due to rags plugging the pumps, and other junk getting into the equipment. Since then, however, equipment builders have furnished the mills, at considerable expense (to the mills) various types of rag catchers, junk removers, settling troughs, etc., all of which were primarily designed to handle waste papers full of junk. These mechanical adjuncts have made it possible to eliminate the loss of productive capacity and also to help improve the quality of the finished paper. All these had to be paid for by the paper mill.

### Quality Control in Board Mills

I understand there is on this program a paper dealing with the control of quality in the board mills. It is practically impossible to make high grade papers from dirty raw material. Your consumers do not accept any excuses from you that the raw material which you use was faulty. Therefore, why should you accept any excuse from the waste paper dealer who delivers material that does not come up to the specification?

Five years ago, this condition could have been corrected. It wasn't. It can be corrected today.

I believe that last year was a very big year in the consumption of waste papers by board mills. They ran at 86 per cent of capacity, which on a 6-day week equals 5 days and 4 hours. You can not very well expect much more this year. At the same time, there was shipped from New York City to England somewhere around 50,000 tons of waste paper and the mills here still were able to run.

You most likely are aware of the program of purchasing certain board mills and shutting them down. As a result of this program a market is being guaranteed to the southern board mills for their output and also to the remaining northern mills. The shutting down of these mills referred to, further guarantees additional supplies of waste paper to the remaining mills. It should, however, be a guide to the waste paper dealer in planning his activities. He should pack better quality merchandise and there is *absolutely no excuse* for you to accept poor material because of lack of supply.

### Bag Waste

In the first part of this paper I referred to bag waste from which was sorted ledger stock, kraft, books, newspapers and other miscellaneous grades. There are two problems as I see it in connection with this material. If the quality of the sorted paper is poor and the mills do not buy it, the price naturally becomes reduced to a point where the dealer has to offer to give it away in order to remove it from his warehouse. You are most likely all aware of the fact that no waste paper dealer has a plant large enough in which he can accumulate any large tonnage of the material. It must all be sorted and shipped the day it is received, or else dumped. In the case of the dealer who has contracted to pay for the bag waste, this dumping constitutes a definite loss but he loses less than if he sorted it and sold it at the present price of $1.50 per ton.

The main reason that the price has dropped to this level, I believe, is because the consuming mills are choosing the lesser of the two evils, and are buying more newspaper than they really want to use. I am of the opinion that the average board mill would prefer mixed paper if it could be as clean as newspaper. If this is true, I sincerely feel that if the industry just shuts its eyes and accepts the belief that mixed paper can not be clean thus permitting the price to go down where it is, that *both* the waste paper dealer and the consumer are going to be the losers. I do not believe that mixed papers *can not* be cleaned up, nor do I believe it when the buyer of the mill tells the superintendent that he "has to use that kind of material," but I do know that there is too great a laxity on the part of too many consumers in their acceptance of poor quality paper stock. It is here today in larger quantities that we have ever had it before, and if concerted effort is not made by the consumer, not only to consume more of these mixed papers, but also to get together on an uniform specification and to take nothing less, that this very vital source will dry up because the dealer and the producer will find a way of disposing it so that it does not find its way into paper making channels.

You may say, and rightly, that you can always get it again by raising the price, but do you realize the level to which you have to go in order to start the machinery in motion again and what headaches and backaches you will get in the mill from the poor quality that comes out every time this situation arises? This constitutes a very definite problem to the waste paper dealer handling mixed papers, ledgers and other grades sorted from the original bag waste.

In order to justify sorting of mixed papers at the present low price they need a high price for ledgers, otherwise, if the price on that or other grades is not sufficient, everything will be dumped. The waste paper dealer will, of course, lose money; particularly if he does not insist upon being paid for the removal of the bags at the source. On the other hand, if these prices remain low as they are today (I am talking now about mixed papers), and the waste paper man finds it to his advantage to dump the stuff instead of sorting anything, we are going to find ourselves with a definite shortage of the ledger stock and other grades normally sorted from the mixed papers. This shortage will, of course, ultimately be made up when a mad scramble ensues on the part of the ledger consumers to stimulate the gathering of the material again. The stimulant used will be increased prices out of all proportion to the value of the merchandise and a resultant unbalancing of the market again.

I think very careful consideration should be given at this time, particularly to some program for the conservation of our mixed paper supply which is at this moment very abundant and its very abundance is what is threatening its elimination as a steady source of raw material for the paper mills.

For years the average quality of waste paper has been poor. Some paper mills have invented new special names to give to various grades of papers as an excuse to pay more in the belief they were getting better quality — and also to insure flow to them. This belief has not been justified by the facts.

With the increasing demands for uniformity of quality from the consumer of paper, there is absolutely no reason why the industry at this moment should not take very careful recognition of the fact that a serious condition exists. Many people do not consider this to be serious, because they are offered

large tonnages of material today. Someone has said that the time to fix the roof was when the sun was shining, and I think right now is the time for the paper stock consumers as a whole to sit down and formulate plans for uniform and careful inspection of their paper stock. The legitimate and honest dealer will welcome uniform acceptance of fair specifications.

Some mills using small percentages of pulp in relation to their total requirement for raw material spend a lot of time checking this pulp but pay no attention to their waste paper on the assumption that they have to take what they get.

At the same time and by the same token if the waste paper dealer wants to continue profitably in his chosen line of endeavor, he is going to have to readjust his ideas as to what he can afford to pay for this ever increasing supply at the source in order that he might be able to put into the paper stock the necessary amount of labor to properly prepare it for use, and at the same time make a profit for himself.

I do not believe there is any reason for us to expect high waste paper prices, but they must be equitable. At the present time with the poor quality, for which we can blame no one but the consumer, there is no basis on which to arrive at an equitable price.

# Sorption of Water Vapor by Papermaking Materials*

## Irreversible Loss of Hygroscopicity Due to Drying

By C. O. Seborg[1], F. A. Simmonds[2] and P. K. Baird[3]

**Abstract**

*The hygroscopicity of a pulp is definitely increased by extreme beating. For the representative pulps used, this increase, based on the moisture content of the unbeaten pulp, amounted to about 6 per cent.*

*Bleaching lowers the hygroscopicity of a pulp. The greatest reduction occurs with slight bleaching. Additional bleaching, within certain limits, produces a further reduction in hygroscopicity but the influence is not proportionately as great.*

*The hysteresis of a sorption cycle, after original desorption, between 0 and 95 per cent relative humidity of a chemical wood pulp was found to remain unchanged through repeated cycles. The ratio of the adsorption to desorption moisture content values, over a wide range of humidities, in these cycles was a constant value. The value of the ratio for the pulps was independent of species of wood, digestion process, beating, and bleaching.*

*Repeated drying and soaking treatments progressively reduced, in decreasing increments, the hygroscopicity of a pulp before and after bleaching above 50 per cent relative humidity until no further reduction in hygroscopicity was observed after the sixth desorption.*

*The fact that the reduction of desorption hygroscopicity by the soaking and drying treatment occurs over only a part of the humidity range, and that the adsorption moisture contents in the same humidity range or in the same moisture content range are not similarly affected by successive desorptions, cannot be explained on the basis of current theories of sorption mechanism.*

*It is believed that the lower limit of a desorption isotherm of a pulp from above saturation is reached when its hysteresis ratio approaches very near or coincides with that of a closed hysteresis loop which has 0 and 100 per cent as its extremes of relative humidity.*

*The quartz spirals now in use were found to be sensitive to the amounts of moisture they absorb above 65 per cent relative humidity. This necessitated calibration of the spirals at higher humidities and the application of corrections for such adsorbed moisture.*

The investigations reported here comprise a part of fundamental studies at the Forest Products Laboratory of fiber and stuff properties. They deal with hygroscopicity as a fiber property, its relation to other fiber properties, its modification by chemical and physical processing, and its bearing on the phenomenon of hydration, as the term is used in papermaking.

A comprehensive review of the extensive literature of the hygroscopicity of papermaking materials, exclusive of the finished product, is beyond the scope of this paper. Such information relative to the more significant results of past work is readily available in a recent publication by Stamm *(15)*. It is desirable to call particular attention, however, to the researches of Mason and Richards, Urquhart and Williams, Campbell, Pidgeon and Maass, Sheppard and Newsome, and Oguri, all of which have contributed greatly to this field of knowledge. It is of historical interest to observe that Müller *(6)* in 1882 was probably the first to observe the definite relation between the amount of moisture in the atmosphere and that *sorbed* by a cellulosic material.

### Sorption Hysteresis

The hysteresis effect was observed as early as 1906 when Mason and Richards *(5)* found that a different equilibrium moisture content resulted at a specified relative humidity depending on whether equilibrium was approached from a higher or lower relative humidity. They attributed this result to failure to attain equilibrium rather than to an inherent characteristic of cellulose. Hysteresis is now, however, generally accepted as an inherent property of cellulose..

Researches dealing with hysteresis have proved valuable as a basis for theories of the mechanism of

* Presented at the Annual Meeting of the Technical Association of the Pulp and Paper Industry, Waldorf-Astoria Hotel, New York, N. Y., Feb. 21-24, 1938.

[1] Member TAPPI, Asst. Chemist, Forest Products Laboratory, Forest Service, U. S. Dept. of Agriculture, Madison, Wis.
[2] Member TAPPI, Associate Chemist, Forest Products Laboratory.
[3] Member TAPPI, Senior Chemist, Forest Products Laboratory.

sorption. These studies should continue to be fruitful for it is by no means certain that the fundamentals of the phenomenon are fully understood. The practical importance of hysteresis, as manifested by its effect on the physical properties of papers and boards has, comparatively recently, been given careful consideration in a number of investigations *(3, 4, 7, 10, 16, 17)*. Recently at the Forest Products Laboratory a study was made of hysteresis *(9)* to determine its characteristics during the course of consecutively repeated sorption cycles, exclusive of the original desorption.

A highly beaten unbleached spruce sulphite pulp was subjected to seven complete cycles, each beginning with adsorption from dryness, and carried stepwise up to and including 95 per cent relative humidity and ending with desorption to dryness. Hysteresis persisted, undiminished, throughout the seven cycles. This was aptly illustrated by the ratio of adsorption to corresponding desorption equilibrium moisture content values over the humidity range of 12 to 88 per cent. The ratio ranged from 0.83 to 0.87, averaging 0.85.

When this calculation was applied to similar hysteresis loops available from unpublished data the ratio was found to fall within the rather narrow limits of 0.85 to 0.88 for a variety of chemical wood pulps and stuffs. In the case of sulphuric acid lignin and cuprammonium lignin the values were, respectively, 0.78 and 0.79. The hysteresis ratio, in the case of chemical wood pulps, thus appears approximately a constant, independent of species, amount of springwood or summerwood, pulping process, degree of beating, and degree of bleaching.

Urquhart *(18)* attributed sorption hysteresis of cellulose to the free secondary-valence bonds of the hydroxyl groups. When cellulose is wet the hydroxyl groups are practically all satisfied by water molecules and as drying proceeds these molecules are removed. As shrinkage occurs pairs of proximate hydroxyl groups are drawn together to satisfy the secondary-valence bonds. During adsorption not all these hydroxyl to hydroxyl linkages are again broken apart thus reducing the number of points of adsorption and consequently reducing the amount of moisture held.

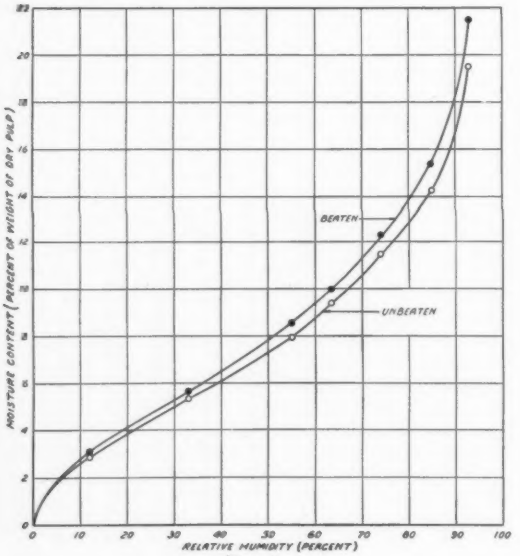



FIG. 1

**Effect of extreme beating on the adsorption equilibrium moisture content of a silver fir sulphite pulp.**

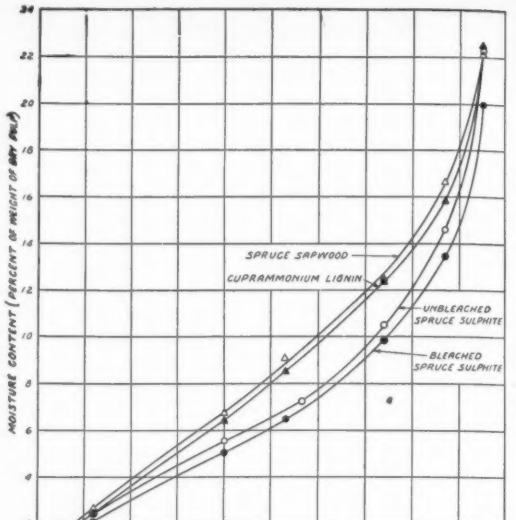



FIG. 2

**Adsorption isotherms for spruce sapwood and the lignin and sulphite pulp isolated from it.**

Since the number and reactivity of the hydroxyl groups found in cellulose and lignin are very different, and since the degree and mechanics of shrinking and swelling are probably different for the two materials, it was thought that the magnitude of sorption hysteresis of cellulose and lignin would likely be different. It was found, however, that although the hysteresis ratios of the two materials showed some difference they were still of the same order of magnitude and the difference was much less than expected. Unless the observed difference between the hysteresis ratios of cellulose and lignin can be proved significant it is unlikely that hysteresis can be explained solely by Urquhart's theory of the coupling and uncoupling of the hydroxyl groups.

### Effect of Physical and Chemical Processing

The continuity of the moisture sorption isotherms has been used *(1, 12, 13)* to establish the fact that beating (physical processing) does not effect the formation of a true cellulose hydrate. Although the results obtained in these investigations indicated a tendency of the beating effect to increase the hygroscopicity of pulps, the small and somewhat irregular differences observed apparently precluded a significant difference.

The study of the beating effect *(11)* was continued with the apparatus of improved sensitivity using highly beaten sulphate and sulphite pulps. The beaten pulps attained consistently higher equilibrium moisture contents than in the unbeaten state over the entire humidity range. A typical example is afforded by Fig. 1. The average increase in hygroscopicity was 6 per cent on the basis of the moisture content of the unbeaten pulp, which is probably near the maximum attainable by beating for the specified humidity range. Since, however, the hygroscopicity increase was greater at the higher relative humidities, it was deemed advisable to extend such determinations to a higher humidity.

Bleaching was found to reduce hygroscopicity, the reduction increasing with increasing severity of

TABLE I.—EQUILIBRIUM RELATIVE HUMIDITIES OBTAINED BY 12 SATURATED SALT SOLUTIONS

| Salt solution | Relative humidity 25 degrees C., Per cent | Salt solution | Relative humidity 25 degrees C., Per cent |
|---|---|---|---|
| $LiCl \cdot H_2O$[a] | 12.0 | $NaNO_2$[a] | 63.5 |
| $MgCl_2 \cdot 6H_2O$[a] | 33.0 | NaCl[a] | 74.0 |
| $Zn(NO_3)_2 \cdot 6H_2O$ | 40.0 | KCl[a] | 85.0 |
| $Na_2Cr_2O_7 \cdot 2H_2O$ | 53.4 | $K_2CrO_4$ | 87.0 |
| $MnCl_2$[a] | 55.0 | $KNO_3$[a] | 93.0 |
| $NaHSO_4 \cdot H_2O$ | 56.5 | $K_2HPO_4$ | 95.3 |

[a] Gave most uniform relative humidities.

bleaching. In the case of a sulphite pulp a practically linear reduction in hygroscopicity resulted over a range of 8 to 25 per cent bleach ratio where the upper limit represented definite overbleaching. Representative adsorption isotherms for wood and the lignin and sulphite pulp isolated from it are illustrated in Fig. 2.

### Irreversible Reduction of Original Hygroscopicity by Drying

The effect of drying on the properties of cellulosic materials is of both fundamental and practical importance. This can be readily appreciated by reference to relevant literature, a survey of which is available *(14)*. The adsorption hysteresis following original drying has been discussed previously as illustrative of fundamental value. In the case of cotton, Urquhart and Eckersall *(19)* found this reduction in hygroscopicity to persist after soaking the material in hot water. An essentially practical example is the effect on the strength of a pulp. Some have found that air drying caused an irreversible reduction in the strength whereas others, notably Harrison *(2)*, found the contrary. There are, however, practically no data available relevant to the effects of drying on the moisture relations of pulps. For this reason the following study of these effects was made at the Forest Products Laboratory.

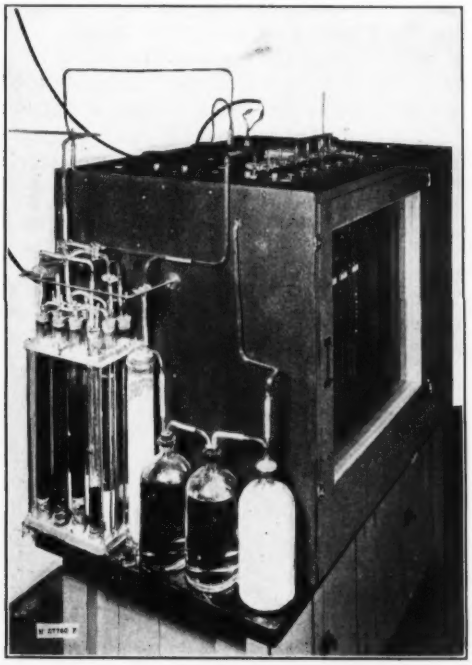


FIG. 3
The Forest Products Laboratory sorption apparatus.

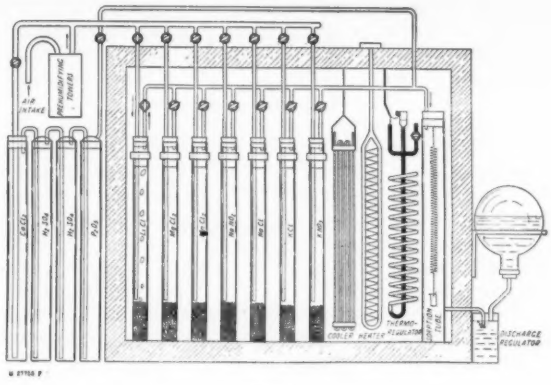


FIG. 4
Diagrammatic drawing of the Forest Products Laboratory sorption apparatus.

### Apparatus Used for the Determination of Hygroscopicity

The apparatus used for determining the moisture contents at the various humidities is shown in Fig. 3 and diagrammatically represented in Fig. 4. It consists essentially of a thermostatic air bath in which the samples of pulp are suspended from sensitive calibrated quartz spirals in sorption chambers through which air, humidified by passing through different saturated salt solutions to give the desired relative humidity, is circulated. The change in length of the quartz spirals as the samples gained or lost moisture, depending on whether the humidity was increased or decreased, was measured by means of a cathetometer mounted outside of the air bath. In this way the moisture content of the samples, calculated from the cathetometer readings and the calibration data of the quartz spirals, was determined without disturbing the temperature and humidity conditions of the sorption chambers.

Prehumidifying towers delivered air with a relative humidity from 5 to 10 per cent above that desired for the sorption experiments. This prehumidified air was then brought to the desired humidity by passage through one of the several saturated salt solutions within the thermostatic air bath.

The saturated salt solutions used and the respective relative humidites obtained thereby are listed in Table I. The salts marked with superscript *a* give the most constant relative humidities and are the only ones now used. All stopcocks within the bath affecting the flow of conditioned air were operated by extensions outside the bath.

The samples were dried by air from a series of towers containing, in the order named, anhydrous calcium chloride, concentrated sulphuric acid, and phosphorus pentoxide suspended on glass wool.

The air flow was distributed evenly throughout eight sorption tubes by controlling the pressure through side-arm outlets projecting from the base of the tubes through the air-bath wall and into a trough of water at constant level. The depth of immersion of each side-arm tube was adjusted to obtain a rate of flow of approximately three bubbles per second from a 4-mm bore tube.

The quartz spirals, to which the pulp and stuff samples were attached in sheet form, gave, on an average, a deflection of about 30 cm with a 100-mg load.

The sorption samples ranged in weight from 30 to 75 mg, the lighter samples being used with the more sensitive spirals. All samples came to equilibrium in 24 hours except in relative humidities near 90 per cent in which instances the time required was frequently 48 hours. When drying the samples, a 48-hour period was used to insure equilibrium, although the sample weight at the end of 24 hours usually was the same as that after 48 hours of drying.

The apparatus is capable of being operated with high precision. In a typical sorption experiment, the average arithmetical difference in percentage moisture content among 93 pairs of check determinations was 0.10. At very high humidities the check determinations did not agree as well, so if the 10 pairs of check determinations at 93 per cent relative humidity were omitted from the calculations, the average spread among the remaining 83 pairs was reduced to 0.07.

Wet samples, too heavy to be carried by the spirals must be supported otherwise until after partial drying. The device used, a modification of Russell's *(8)* ring support, is illustrated in Fig. 5. It consists of a hook at the end of a glass rod which passes through and is supported by a rubber stopper at the top of the sorption chamber. The part of the rod projecting above the stopper is bent to form a handle for turning the hook out of the way from outside of the bath after the spiral has assumed the load of the drying sample. Considerable vertical adjustment is possible to accommodate the length and stretch of the spiral and the hook can also be turned completely out of the way after the spiral has assumed the load.

With highly sensitive quartz spirals a correction had to be made for the moisture adsorbed by the spirals themselves above 65 per cent relative humidity. No change in length of the spirals was observed below 55 per cent relative humidity. At 65 per cent relative humidity a deflection was observed but was within the error of the cathetometer readings. Above 65 per cent relative humidity the deflection increased with increasing humidity until it became appreciable at the higher humidities. The spirals were calibrated at 65 per cent relative humidity and the correction applied was for the weight of moisture adsorbed in excess of that adsorbed at 65 per cent relative humidity. The corrections range from an average of 0.07 to 0.16 mg. for relative humidities of 74 to 93 per cent, respectively. These amounts are, in general, greater than can be accounted for by a monomolecular adsorption on the geometric surface of the spirals. This may indicate surface irregularities bordering on porosity.

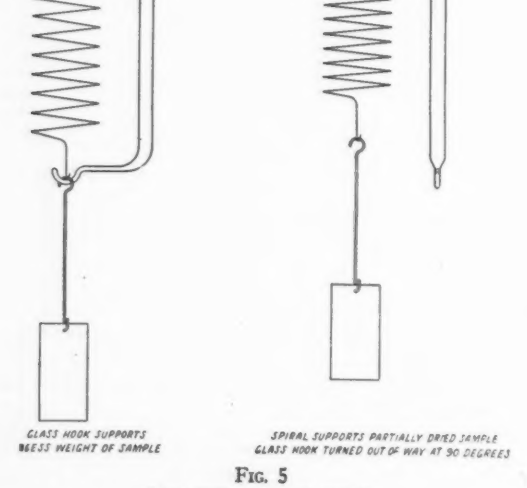

GLASS HOOK SUPPORTS
BEESS WEIGHT OF SAMPLE
SPIRAL SUPPORTS PARTIALLY DRIED SAMPLE
GLASS HOOK TURNED OUT OF WAY AT 90 DEGREES

FIG. 5
Hook support for wet sample.

## Materials and Procedure

The material selected for determination of the effect of drying on hygroscopicity comprised both unbleached and bleached unbeaten western hemlock sulphite pulps. These materials were maintained above the fiber-saturation point at all times from the digestion of the wood to the determination of the original desorption isotherms under the conditions of the sorption apparatus. After the samples had reached dryness through the course of original desorption and the weight of dry material determined, they were removed from the sorption apparatus and soaked in water at room temperature for 24 hours. A modification of this treatment was made in the case of the fifth isotherm by boiling the samples in water for 4 hours and then soaking them in water at room temperature for 20 hours prior to the determination of the isotherm. After each desorption, the samples were carefully placed between alternate layers of lintless blotters and wrapped with rubber bands to keep them firmly in place during soaking. At intervals during soaking the submerged samples were subjected alternately to a vacuum and atmospheric pressure to remove entrapped air. After such treatment the samples were touched gently with blotters to remove enough excess water so that they could be replaced on the spirals without danger of falling apart. The next desorption isotherm was then determined. The moisture content values of each isotherm were calculated on the basis of the weight of dry material found at the end of each run, thus avoiding error due to loss of fibers in the soaking treatment. The alternate soaking and drying procedure was continued until nine desorption isotherms were obtained.

TABLE II.—EFFECT OF ALTERNATE DRYING AND SOAKING ON THE DESORPTION EQUILIBRIUM MOISTURE CONTENTS OF UNBEATEN WESTERN HEMLOCK SULPHITE PULP

Moisture contents: Averages of four determinations (Per cent on dry basis)

| Relative humidity at 25 degrees C. | Desorption isotherms: Original | Second | Third | Fourth | Fifth | Sixth | Seventh | Eighth | Ninth |
|---|---|---|---|---|---|---|---|---|---|
| **Unbleached** | | | | | | | | | |
| 93 | 27.69 | 23.51 | 21.61 | 20.73 | 20.77 | 19.66 | .... | 19.67 | 19.66 |
| 85 | 19.84 | 18.43 | 17.78 | 17.01 | 16.84 | 16.50 | 16.49 | 16.55 | .... |
| 74 | 14.89 | 14.33 | 14.13 | 13.67 | 13.60 | 13.20 | 13.43 | 13.25 | 13.23 |
| 63.5 | 11.43 | 11.31 | 11.07 | 10.87 | 10.61 | 10.65 | 10.71 | 10.71 | 10.71 |
| 55 | 9.54 | 9.57 | 9.40 | 9.19 | 9.10 | 9.19 | 9.10 | 9.19 | 9.18 |
| 33 | 6.03 | 6.05 | 6.10 | 5.97 | 5.82 | 5.95 | 5.95 | 6.03 | 5.89 |
| 12 | 3.27 | 3.21 | 3.25 | 3.13 | 3.04 | 3.20 | 3.19 | 3.17 | 3.14 |
| **Bleached** | | | | | | | | | |
| 93 | 26.24 | 22.15 | 20.44 | 19.52 | 19.62 | 18.73 | .... | 18.75 | 18.65 |
| 85 | 19.47 | 17.85 | 17.14 | 16.28 | 16.10 | 16.40 | 16.12 | 15.98 | .... |
| 74 | 14.55 | 14.10 | 13.19 | 13.33 | 13.26 | 13.01 | 13.29 | 12.92 | 13.01 |
| 63.5 | 11.20 | 11.22 | 11.04 | 10.69 | 10.32 | 10.61 | 10.57 | 10.46 | 10.55 |
| 55 | 9.44 | 9.46 | 9.34 | 9.13 | 8.92 | 9.09 | 9.05 | 8.93 | 9.07 |
| 33 | 6.06 | 6.04 | 6.09 | 5.93 | 5.77 | 5.97 | 5.94 | 5.81 | 5.89 |
| 12 | 3.33 | 3.26 | 3.25 | 3.14 | 3.02 | 3.25 | 3.20 | 3.13 | 3.18 |

TABLE III.—RANGE OF PERCENTAGE REDUCTION IN HYGROSCOPICTY

| Condition of pulp | Percentage reduction [1] between isotherm numbers: 1 and 2, 63.5 per cent relative humidity | 1 and 2, 93.0 per cent relative humidity | 1 and 7 or 9, 63.5 per cent relative humidity | 1 and 7 or 9, 93.0 per cent relative humidity |
|---|---|---|---|---|
| Unbleached | 1 | 15 | 6 | 29 |
| Bleached [2, 3] | 0 | 16 | 6 | 29 |

[1] Values on basis of original desorption moisture content.

[2] Bleached in a single stage with 5.3 per cent chlorine as calcium hypochlorite to a white of about 86 per cent.

[3] The original hygroscopicity of the bleached pulp was 5 per cent less than the unbleached at 93 per cent relative humidity. This difference remained the same after the ninth desorption.

After the ninth desorption a closed hysteresis loop, between dryness and 93 per cent relative humidity, was determined for each pulp.

## Discussion of Results

The desorption isotherms in Figs. 6 and 7, plotted from the data in Table II, illustrate that the drying of pulps under the conditions of the experiment resulted in a reduction of their original hygroscopicity over the range of 93 to approximately 50 per cent relative humidities. Below this range the isotherms were coincidental, differences, if any, being too small to measure.

The reduction continued in decreasing increments with each successive drying until the pulps had been dried six times. The reduction was not reversible by the intermediate soaking or boiling in water as applied. It is true, however, that the treatment in boiling water applied after the fourth desorption did prevent a reasonably expected reduction in the fifth as compared with the fourth. This means, of course, a partial restoration of hygroscopicity was effected.

One interpretation of the results is afforded by comparing the range of percentage reduction in the hygroscopicity of the unbleached and bleached pulps. These percentage values are given in Table III.

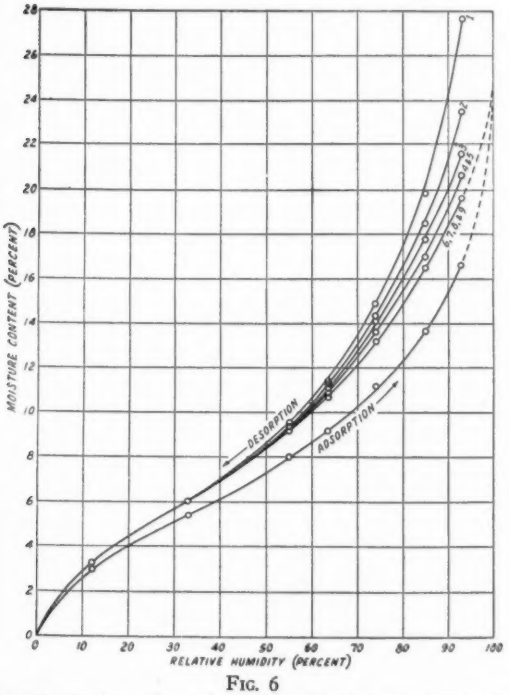



FIG. 6

**Desorption isotherms from above fiber saturation of unbleached unbeaten western hemlock sulphite pulp.**

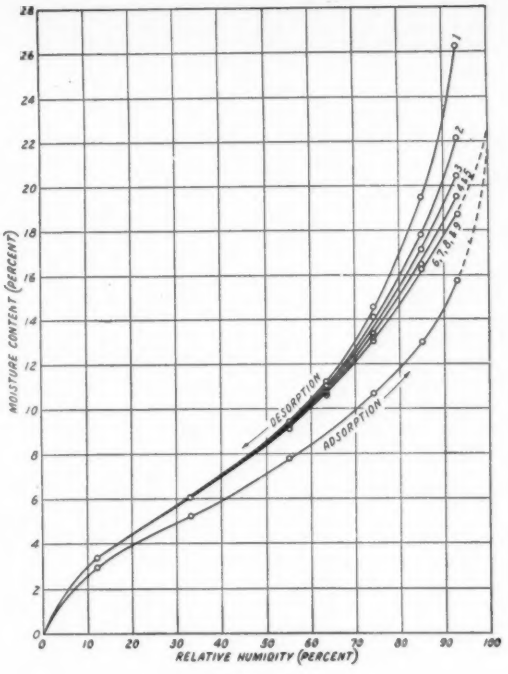



FIG. 7

**Desorption isotherms from above fiber saturation of bleached unbeaten western hemlock sulphite pulp.**

The reduction in hygroscopicity due to these successive dryings appears to be independent of the bleaching effect since the percentage reduction was the same after bleaching as before. It follows from the absence of lignin in the bleached pulp that the hygroscopicity reduction in the case of the unbleached pulp did not involve mechanical structural relations between either cellulose or hemicelluloses and the residual cell wall lignin. Likewise, extraneous materials other than lignin, but removable by bleaching, were obviously not involved. Since cotton, very low in pentosan content, exhibits a similar initial reduction it seems unlikely that these components are an important factor. In other words, the phenomenon appears to be related strictly to the cellulose.

Other factors that must be considered when interpreting the results are: first, the adsorption isotherms for the unbleached and bleached pulps determined after the ninth desorption; and, second, the adsorption isotherm determined as a part of a closed hysteresis loop, immediately following a first desorption isotherm of the material. As was mentioned in the details of procedure, adsorption isotherms, as parts of closed hysteresis loops between dryness and 93 per cent relative humidity, for both the unbleached and bleached pulps were determined immediately after the ninth desorption. The equilibrium moisture values for these adsorption isotherms are recorded in Table IV. They are expressed graphically in Figs. 6 (unbleached pulp) and 7 (bleached pulp). An original closed hysteresis loop (adsorption to 93 per cent relative humidity, then desorption, after the original desorption from above fiber saturation) was obtained for the unbleached pulp only. The equilibrium moisture con-

TABLE IV.—SORPTION HYSTERESIS BETWEEN THE AVERAGE FINAL DESORPTION FROM ABOVE FIBER SATURATION AND SUBSEQUENT ADSORPTION OF AN UNBLEACHED AND BLEACHED WESTERN HEMLOCK SULPHITE PULP

| Relative humidity at 25 degrees C. | Moisture content (per cent on dry basis): Average of sixth, seventh, eighth, and ninth desorptions from above fiber saturation | Subsequent adsorption | Hysteresis ratio [3] |
|---|---|---|---|
| Unbleached | | | |
| 93 | 19.66 | 16.64 | 0.85 |
| 85 | 16.51 | 13.62 | .83 |
| 74 | 13.28 | 11.20 | .85 |
| 63.5 | 10.70 | 9.15 | .86 |
| 55 | 9.17 | 8.01 | .87 |
| 33 | 5.95 | 5.34 | .90 |
| 12 | 3.17 | 2.99 | .94 |
| Average | | | 0.87 |
| Bleached | | | |
| 93 | 18.70 | 15.72 | 0.84 |
| 85 | 16.17 | 12.93 | .80 |
| 74 | 13.06 | 10.64 | .89 |
| 63.5 | 10.55 | 8.84 | .84 |
| 55 | 9.04 | 7.72 | .86 |
| 33 | 5.90 | 5.20 | .88 |
| 12 | 3.19 | 2.88 | .90 |
| Average | | | 0.86 |

[3] Adsorption moisture content divided by desorption moisture content.

tent values for these closed hysteresis loops and the corresponding hysteresis ratios are shown in Table V. In the case of the unbleached pulp the two adsorption isotherms were coincidental, so that the adsorption isotherm in Fig. 6 represents both the original and final adsorptions. The desorption isotherms of the closed hysteresis loops are not shown in Figs. 6 and 7.

The original and final adsorption isotherms began from a dry condition which had previously been reached after contact with liquid water hence they are on a common basis. For this reason and also because they are coincidental, the adsorption moisture relations of this pulp appear to be independent of the effects produced by the alternate drying and soaking treatments on the desorption moisture relations. If, in this instance, adsorption were not independent of the observed reduction in desorption moisture content, it seems reasonable to expect the occurrence of a more or less corresponding reduction in the adsorption moisture contents determined immediately following the ninth desorption.

The fact that the desorption reduction extended only to 40 per cent relative humidity (as a likely lower limit) in conjunction with its apparent lack of influence upon the adsorption isotherm cannot be explained on the basis of current theories of sorption mechanism.

TABLE V.—SORPTION HYSTERESIS VALUES FOR CLOSED HYSTERESIS LOOPS OF UNBLEACHED AND BLEACHED WESTERN HEMLOCK SULPHITE PULPS

| Relative humidity at 25 degrees C. | Unbleached: Moisture content after original [1] desorption from above fiber saturation Per cent | Hysteresis ratio [3] | Unbleached: Moisture content after nine desorptions from above fiber saturation Per cent | Hysteresis ratio [3] | Bleached: Moisture content after nine desorptions from above fiber saturation Per cent | Hysteresis ratio [3] |
|---|---|---|---|---|---|---|
| Adsorption from dryness | | | | | | |
| 12 | 2.86 | 0.87 | 2.99 | 0.94 | 2.88 | 0.92 |
| 33 | 5.41 | .89 | 5.34 | .92 | 5.20 | .90 |
| 55 | 8.04 | .88 | 8.01 | .90 | 7.72 | .88 |
| 63.5 | 9.15 | .86 | 9.15 | .89 | 8.84 | .88 |
| 74 | 11.35 | .89 | 11.20 | .92 | 10.64 | .90 |
| 85 | 13.33 | .93 | 13.62 | .94 | 12.93 | .93 |
| 93 | 16.40 | ... | 16.64 | ... | 15.72 | ... |
| Average hysteresis ratio | | 0.89 | | 0.92 | | 0.90 |
| Desorption from 93 per cent relative humidity | | | | | | |
| 85 | 14.32 | | 14.48 | | 13.95 | |
| 74 | 12.76 | | 12.20 | | 11.83 | |
| 63.5 | 10.60 | | 10.33 | | 10.03 | |
| 55 | 9.15 | | 8.89 | | 8.75 | |
| 33 | 6.10 | | 5.81 | | 5.76 | |
| 12 | 3.31 | | 3.17 | | 3.15 | |

[1] Separate sample run independently of rest of samples.
[3] Adsorption moisture content divided by desorption moisture content.

The average hysteresis ratios of the unbleached and bleached pulps in Table IV were calculated from the open hysteresis loop formed by the average moisture content values of the sixth, seventh, eighth, and ninth desorption isotherms from above fiber saturation and the subsequent adsorption isotherms. These average ratios are somewhat lower than the average ratios in Table V calculated from the closed hysteresis loops between dryness and 93 per cent relative humidity. As the limits of the extremes of humidity of a closed hysteresis loop are extended, the magnitude of hysteresis increases, and, therefore, the average ratio of adsorption to desorption decreases. These facts indicate that the open hysteresis loop (formed by the ninth desorption isotherm and the subsequent adsorption isotherm) is probably coincidental over the range of 0 to 93 per cent relative humidity, with the corresponding isotherms of a hypothetical closed hysteresis loop between dryness and some relative humidity higher than 93 per cent, probably 100 per cent. The dotted line in Figs. 6 and 7 are extrapolations and represent possible points of juncture of the adsorption and desorption isotherms at 100 per cent relative humidity. The moisture contents, at which these isotherms are shown to close, are purely arbitrary and in no sense quantitative since they were obtained by extrapolating curves of rapidly changing slope. The greater rate of change of slope of the adsorption isotherm as compared with that of the desorption isotherm is further indication of the possibility of juncture.

The drying and soaking treatments did not affect the desorption moisture content below 50 per cent relative humidity. It is therefore unlikely that moisture contents of these pulps obtained from further desorptions from above fiber saturation would fall below this isotherm. The fact that there was but a negligible difference between the moisture content values of the sixth and ninth desorption isotherms is experimental evidence that the theoretical stable minimum was attained.

## Literature Cited


(1) Campbell, W. G. and Pidgeon, L. M. *Pulp and Paper Mag. Can.*, 29(6):185 (Feb. 6, 1930).
(2) Harrison, H. Ainsworth. *Proc. Tech. Sect., Paper Makers' Assoc. Gt. Brit. & Ire.* 11, pt. 2:272 (March 1931).
(3) Laroque, G. L. *Pulp and Paper Mag. Can.*, 37(4):199 (March 1936).
(4) Laroque, G. L. *Canadian Pulp & Paper Assoc., Tech. Sec. Proc.*, p. 36 (Jan. 27, 1937).
(5) Mason, O. and Richards, E. S. *Proc. Roy. Soc.* 78A:412 (June 25, 1906).
(6) Müller, —. *Dinglers Polytechnisches Journal* 245:210 (1882).
(7) Reed, R. F. *Paper Trade J.* 102(23):37 (June 4, 1936).
(8) Russell, J. K., Maass, O., and Campbell, W. B. *Can. J. Research* 15(1B):13 (Jan. 1937).
(9) Seborg, C. O. *Ind. Eng. Chem.* 29(2):169 (Feb. 1937).
(10) Seborg, C. O., Doughty, R. H., and Baird, P. K. *Paper Trade J.* 97(15):37 (Oct. 12, 1933).
(11) Seborg, C. O., Simmonds, F. A., and Baird, P. K. *Ind. Eng. Chem.* 28(11):1245 (Nov. 1936).
(12) Seborg, C. O. and Stamm, A. J. *Ind. Eng. Chem.* 23(11):1271 (Nov. 1931).
(13) Sheppard, S. E. and Newsome, P. T. *Ind. Eng. Chem.* 26(3):285 (March 1934).
(14) Simmonds, F. A. *Paper Trade J.* 96(20):31 (May 18, 1933); *Zellstoff u. Papier* 13, 435-6, 480-2, 518-19 (Sept.-Nov. 1933).
(15) Stamm, A. J. U.S.D.A. Misc. Publ. No. 240 (June 1936).
(16) Weber, C. G. and Geib, M. N. V. *Paper Trade J.* 103(12):36 (Sept. 17, 1936).
(17) Weber, C. G. and Snyder, L. W. *Paper Maker* 88(4):311 (Oct. 1934).
(18) Urquhart, A. R. *J. Textile Institute* 20:T125 (June 1929).
(19) Urquhart, A. R. and Eckersall, N. *J. Textile Institute* 21:T499 (Oct. 1930).

# Imports of Paper and Paper Stock

## Giving Manifests of New York, Boston, Philadelphia and Other Ports of Newsprint, Wrapping, Writing, Coated, Blotting, Tissue, Strawboard, Wallboard, Cigarette Papers, Sulphite, Kraft and Ground Wood Pulp.

### NEW YORK IMPORTS

WEEK ENDING NOVEMBER 5, 1938

SUMMARY

Cigarette Paper .....613 cs., 12 covers
Wall paper .....6 bxs.
Paper hangings .....3 bls.
Newsprint .....15,630 rolls
Printing papers .....142 cs., 135 rolls
Wrapping paper .....2 rolls, 25 cs.
Packing paper .....11 bls.
Filter paper .....14 lbs., 128 bls.
Drawing paper .....2 cs.
Bristol board .....1 cs.
Surface baryta coated paper .....25 cs.
Surface coated paper .....1 cs.
Basic paper .....1 cs.
Metal covered paper .....3 cs.
Marble paper .....5 cs.
Tissue .....60 cs.
Stencil paper .....2 cs.
Copy paper .....3 cs.
Writing paper and envelopes .....3 cs.
Miscellaneous paper .....45 cs., 87 rolls

CIGARETTE PAPER

American Tobacco Co., *Schodack,* Bordeaux, 51 cs.
H. H. Strauss, *Schodack,* Bordeaux, 373 cs.
Champagne Paper Corp., *Paris,* Havre, 84 cs.
Braunstein Freres, Inc., *Paris,* Havre, 7 cs., 12 covers.
Jay Madden Corp., *Mormactide,* Helsingfors, 98 cs.

WALL PAPER

Titan Shipping Co., *Stavangerfjord,* Hagastrom, 6 bxs.

PAPER HANGINGS

W. H. S. Lloyd & Co., *American Trader,* London, 3 bls.

NEWSPRINT

Perkins Goodwin & Co., *Deutschland,* Hamburg, 307 rolls.
Jay Madden Corp., *Scanpenn,* Kotka, 516 rolls.
N. Y. Evening Journal, *Scanpenn,* Kotka, 258 rolls.
N. Y. Evening Journal, *Markland,* Liverpool, N. S., 646 rolls.
N. Y. Tribune, *Markland,* Liverpool, N. S., 1521 rolls.
World Telegram, *Markland,* Liverpool, N. S., 609 rolls.
Brooklyn Daily Eagle, *Markland,* Liverpool, N. S., 407 rolls.
N. Y. Post, *Markland,* Liverpool, N. S., 907 rolls.
Gilman Paper Co., *Markland,* Liverpool, N. S., 312 rolls.
International Paper Co., *International No. 1,* Gatineau, 338 rolls.
H. G. Craig Co., Inc., *G.D.D.,* Donnacona, 365 rolls.
H. G. Craig Co., Inc., *Newscarrier,* Donnacona, 380 rolls.
H. G. Craig Co., Inc., *Donpaco,* Donnacona, 364 rolls.
News Syndicate Co., Inc., *Louisiana,* Comeau Bay, 6277 rolls.
Lunham & Reeve, Inc., *Southlure,* Kotka, 242 rolls.
Jay Madden Corp., *Southlure,* Kotka, 1030 rolls.
Jay Madden Corp., *Mormactide,* Helsingfors, 687 rolls.
Jay Madden Corp., *Hamburg,* Finland, 318 rolls.
Perkins Goodwin & Co., *Hamburg,* Hamburg, 126 rolls.

PRINTING PAPER

Dingelstedt & Co., *Deutschland,* Bremen, 49 cs., 46 rolls.
Jay Madden Corp., *Scanpenn,* Kotka, 39 bls.
R. Wilson Paper Corp., *Caledonia,* Glasgow, 12 cs.
Burroughs Wellcome Co., Inc., *American Trader,* London, 5 cs.
S. H. Pomerance Co., Inc., *Queen Mary,* Southampton, 1 cs.
H. Reeve Angel & Co., Inc., *Southlure,* Kotka, 41 rolls.
Dingelstedt & Co., *Hamburg,* Hamburg, 48 rolls, 37 cs.

WRAPPING PAPER

F. C. Strype, *Black Osprey,* Antwerp, 2 rolls, 4 cs.
F. J. Markwalter & Co., *Deutschland,* Hamburg, 21 cs.

PACKING PAPER

——, *Deutschland,* Bremen, 11 bls.

FILTER PAPER

——, *American Trader,* London, 1 cs.
H. Reeve Angel & Co., Inc., *American Trader,* London, 8 cs.
E. H. Sargent & Co., *Drottningholm,* Gothenburg, 3 cs.
J. Manheimer, *Paris,* Havre, 128 bls.

DRAWING PAPER

H. Reeve Angel & Co., Inc., *American Trader,* London, 2 cs.

BRISTOL BOARDS

Favor Ruhl & Co., *American Trader,* London, 1 cs.

SURFACE BARYTA COATED PAPER

Atlantic F'd'g Co., *Deutschland,* Hamburg, 25 cs.

SURFACE COATED PAPER

Dingelstedt & Co., *Gerolstein,* Antwerp, 1 cs.

BASIC PAPER

Dingelstedt & Co., *Gerolstein,* Antwerp, 1 cs.

METAL COVERED PAPER

K. Pauli Co., *Hamburg,* Hamburg, 3 cs.

MARBLE PAPER

Borden Riley Paper Co., *Konigstein,* Antwerp, 5 cs.

TISSUE PAPER

Lansen Naeve Corp., *Deutschland,* Hamburg, 2 cs.
B. F. Drakenfeld & Co., *Samaria,* Liverpool, 3 cs.
Atlantic F'd'g Co., *Hamburg,* Hamburg, 55 cs.

STENCIL PAPER

American Express Co., *Black Osprey,* Antwerp, 2 cs.

COPYING PAPER

Roneo Co., *American Trader,* London, 3 cs.

WRITING PAPER AND ENVELOPES

International Clearing House of N. Y., Inc., *G. Maersk,* London, 3 cs.

PAPER

W. Bersch, *Deutschland,* Hamburg, 1 cs.
Winsor & Newton, Inc., *American Trader,* London, 2 cs.
The Borregaard Co., Inc., *Drottningholm,* Gothenburg, 69 rolls, 23 bls.
The Hudson Co., *Paris,* Havre, 2 cs.
The Morilla Co., *Paris,* Havre, 9 cs.
T. D. Downing & Co., *Paris,* Havre, 2 cs.
Hudson F'd'g Co., *Paris,* Havre, 45 bls.
Penson & Co., *Paris,* Havre, 8 cs.
H. W. Robinson Co., *Paris,* Havre, 6 cs.
Keuffel & Esser Co., *Hamburg,* Hamburg, 13 rolls, 15 cs.

RAGS, BAGGINGS, ETC.

——, *Exminster,* Leghorn, 322 bls. rags.
F. J. Fawcett, *Black Osprey,* Antwerp, 60 bls. flaxwaste.
Darmstadt Scott & Courtney, *Statendam,* Rotterdam, 88 bls. bagging.
C. Nelson, *Caledonia,* Glasgow, 12 bls. rags.
Hughes Fawcett, Inc., *Caledonia,* Glasgow, 60 bls. flaxwaste.
J. Cohen & Son Co., Inc., *Samaria,* Liverpool, 16 bls. rags.
Loumar Textile By Products, Inc., *Samaria,* Liverpool, 51 bls. paperstock.
National City Bank, *American Trader,* London, 66 bls. old strings.
Irving Trust Co., *E. Francqui,* Antwerp, 55 bls. bagging.
Darmstadt Scott & Courtney, *Black Tern,* Antwerp, 269 bls. bagging.
Irving Trust Co., *G. Maersk,* Antwerp, 66 bls. rags, 106 bls. bagging.

American Express Co., *G. Maersk,* Antwerp, 80 bls. rags.
Van Oppen & Co., *G. Maersk,* Antwerp, 76 bls. rags.
E. Butterworth & Co., Inc., *G. Maersk,* Antwerp, 84 bls. jutewaste.
W. Steck & Co., *G. Maersk,* London, 66 bls. waste strings.

RAGS, BAGGINGS, ETC.

R. Blank, *Schodack,* Havre, 42 bls. linen rags.
Castle & Overton, Inc., *Schodack,* Havre, 237 bls. bagging.
Darmstadt Scott & Courtney, *Schodack,* Havre, 251 bls. bagging.
The Barrett Co., *Schodack,* Havre, 172 bls. bagging.
Keene, Inc., *Schodack,* Bordeaux, 74 bls. rags.
Chase National Bank, *Schodack,* Bordeaux, 96 bls. rags.
Irving Trust Co., *Gerolstein,* Antwerp, 52 bls. bagging.
Hughes Fawcett, Inc., Gerolstein, Antwerp, 7 bls. flaxwaste.
D. S. Stern Corp., *Eidsvold,* Bombay, 300 bls. cotton waste, 500 bls. cotton fly waste.
Manufacturers Trust Co., *Eidsvold,* Bombay, 300 bls. cotton waste.
Padawer & Co., *Eidsvold,* Bombay, 70 bls. cotton waste.
Commerical Nat'l. Bank & Trust Co., *Eidsvold,* Bombay, 100 bls. cotton waste.
———, *Eidsvold,* Bombay, 100 bls. cotton waste.
Irving Trust Co., *Eidsvold,* Bombay, 107 bls. cotton waste, 175 bls. jute rags.
Darmstadt Scott & Courtney, *Eidsvold,* Bombay, 390 bls. bagging.
Joe Levy & Sons, *Oriente,* Havana, 5 bls. rags.

OLD ROPE

———, *Scanpenn,* Copenhagen, 12 bls. (old cordage).
———, *Caledonia,* Glasgow, 49 coils.
———, *Quaker City,* Liverpool, 120 coils.
Chase National Bank, *American Trader,* London, 64 coils.
Banco Coml Italiane Trust Co., *G. Maersk,* London, 129 bls.
W. Steck & Co., *G. Maersk,* London, 64 coils.

CASEIN

National City Bank, *Paris,* Havre, 200 bags.

WOOD PULP

Bank of N. Y. Trust Co., *Deutschland,* Hamburg, 550 bls. wood pulp, 110 tons.
Castle & Overton, Inc., *Deutschland,* Hamburg, 525 bls. wood pulp, 105 tons.
Pulp Sales Corporation, *Scannpenn,* Wiborg, 1524 bls. sulphite, 283 tons, 800 bls. mechanically ground pulp, 157 tons.
The Borregaard Company, Inc., *Stavangerfjord,* Sarpsborg, 504 bls. sulphate.
Chase National Bank, *Stavangerfjord,* Oslo, 150 bls. sulphite.
———, *Etna,* Hernosand, 630 bls. sulphite, 105 tons.
Irving Trust Company, *Etna,* Hernosand, 600 bls. sulphite, 100 tons.
———, *Etna,* Iggesund, 525 bls. sulphate, 500 bls. sulphite.
———, *Harbledown,* Port Alice, 750 bls. woodpulp.
Pulp Sales Corporation, *Southlure,* Wiborg, 4368 bls. sulphite, 803 tons.
Castle & Overton, Inc., *Mormactide,* Stockholm, 300 bls. sulphite, 50 tons.
Pulp Sales Corporation, *Mormactide,* Jacobstad, 3465 bls. sulphite, 693 tons.
Castle & Overton, Inc., *Hamburg,* Hamburg, 525 bls. woodpulp, 105 tons.
Absorbo Beer Pad Co., *Hamburg,* Hamburg, 80 bls. woodpulp.
M. Sone, *Kersten Miles,* Sundsvall, 300 bls. woodpulp.

WOOD PULP BOARDS

Jay Madden Corporation, *Scannpenn,* Kotka, 478 rolls, 269 bls.
Jay Madden Corporation, *Scannpenn,* Wiborg, 3 rolls, 22 bls.
Fibre Case & Novelty Company, Inc., *Drottningholm,* Gothenburg, 10 bls.
Jay Madden Corporation, *Southlure,* Wiborg, 117 bls.
———, *Hamburg,* Hamburg, 66 cases, (sheets).

## NEWARK IMPORTS

WEEK ENDING NOVEMBER 5, 1938

H. G. Craig Co., Inc., *A.C.D.,* Donnacona, 344 rolls newsprint.

## ALBANY IMPORTS

WEEK ENDING NOVEMBER 5, 1938

Cellulose Sales Co., Inc., *Nordvard,* Sundsvall, 5575 bls. sulphite, 1300 tons, 450 bls. sulphate, 75 tons.
Perkins Goodwin & Co., *Nordvard,* Sundsvall, 2004 bls. sulphate, 334 tons.
Perkins Goodwin & Co., *Nordvard,* Soderhamn, 625 bls. sulphate, 125 tons.
Bulkley Dunton Pulp Co., Inc., *Nordvard,* ——— 1875 bls. sulphite, 375 tons.
Bank of N. Y. Trust Co., Nordvard, Hernosand, 6000 bls., sulphite, 1000 tons, 300 bls. mechanical pulp, 50 tons.
Brown Bros. Harriman & Co., *Nordvard,* Hernosand, 270 bls. sulphate, 45 tons.

## PORTLAND IMPORTS

WEEK ENDING NOVEMBER 5, 1938

M. Son, *Mormactide,* Stockholm, 1200 bls. wood pulp.
Gottesman & Co., Inc., *Consul Corfitzon,* Sweden, 500 bls. wood pulp.
Price & Pierce, Ltd., *Consul Corfitzon,* ———, 900 bls. unbleached sulphite.

## BOSTON IMPORTS

WEEK ENDING NOVEMBER 5, 1938

———, *Harbledown,* Port Alice, 3387 bls. woodpulp.
M. Sone, *Gonzenheim,* Stockholm, 600 bls. woodpulp.
Pagel Horton & Co., Inc., *Consul Corfitzon,* Sweden, 306 bls. wood pulp.
Gottesman & Co., Inc., *Consul Corfitzon,* Sweden, 1665 bls. woodpulp.
E. J. Keller Co., Inc., *West Cusseta,* ———, 505 bls. paperstock.

## NEW LONDON IMPORTS

WEEK ENDING NOVEMBER 5, 1938

Pagel Horton & Co., Inc., *Etna,* Iggesund, 2500 bls. sulphate.

## PHILADELPHIA IMPORTS

WEEK ENDING NOVEMBER 5, 1938

E. J. Keller Co., Inc., *Black Osprey,* ———, 266 bls. bagging, 187 bls. paperstock.
Castle & Overton, Inc., *Black Osprey,* Rotterdam, 100 bls. rags.
Pulp Sales Corp., *Scannpenn,* Wiborg, 2794 bls. sulphite, 516 tons.
Atterbury Bros. Inc., *Nordvard,* Sundsvall, 750 bls. dry pulp, 125 tons.
Cellulose Sales Co., Inc., *Nordvard,* Sundsvall, 3710 bls. sulphite, 742 tons, 150 bls. sulphate, 50 tons.
———, *Nordvard,* Soderhamn, 25 bbls. wood pulp residue.
Bank of N. Y. Trust Co., *Nordvard,* Hernosand, 900 bls. mechanical pulp, 150 tons.
F. Whitaker & Co., *Quaker City,* Liverpool, 10 bls. bagging.
———, *Quaker City,* Liverpool, 68 coils old rope.
Harvey Paper Mills Co., *Schodack,* Havre, 91 coils old rope.
E. J. Keller Co., Inc., *Schodack,* ———, 385 bls. rags.
Castle & Overton, Inc., *Schodack,* Havre, 247 bls. rags.
The Lang Co., *Schodack,* St. Nazaire, 136 bls. rags.
R. Blank, Schodack, Bordeaux, 92 bls. rags.
Castle & Overton, Inc., *Southlure,* Stockholm, 150 bls. sulphite, 25 tons.
Pulp Sales Corp., *Southlure,* Helsingfors, 160 bls. mechanically ground pulp.
Pulp Sales Corp., *Southlure,* Wiborg, 1066 bls. sulphite, 196 tons.
J. W. Hampton Jr. & Co., *Southlure,* Kotka, 86 rolls newsprint.
Public Ledger, Inc., *Southlure,* Kotka, 343 rolls newsprint.
Jay Madden Corp., *Southlure,* Wiborg, 10 bls. woodpulp boards.
Castle & Overton, Inc., *Southlure,* Wiborg, 1250 bls. woodpulp, 243 tons.

## BALTIMORE IMPORTS

WEEK ENDING NOVEMBER 5, 1938

Castle & Overton, Inc., *Scannpenn,* Wiborg, 3005 bls. woodpulp 594 tons.
Pulp Sales Corp., *Scannpenn,* Wiborg, 2084 bls. sulphate, 410 tons.
Washington Post, *Markland,* Liverpool, N. S., 1799 rolls newsprint.

*(Continued on page 53)*

## New York Market Review

Office of the PAPER TRADE JOURNAL,
Wednesday, November 9, 1938.

Wholesale sales volume in some grades of paper shows a little improvement for the current week under the stimulus of the gradual upward movement widely reported in general industry. The index of general business activity currently stands at 89 per cent, compared to 95 per cent for the corresponding week in 1937. Manufacturers' sales of all products, according to the latest Government reports for last month, were 6.5 per cent higher than in August and 16.5 per cent lower than in the corresponding period in 1937. Fundamental conditions are, of course, unlike those prevailing last year at this date, for activity in most major industries and markets in many sections of the country is now headed upward while last year the trend was beginning to turn downward in practically all major industries and markets .

Production of paper continues to maintain previous gains and is reported at 82.3 per cent. The basic factors are favorable for the future, the trend of general business and paper production is upward and the immediate outlook is for a continuation of the gradual improvement now in progress.

The news of the week in newsprint is the announcement by the International Paper Co., that its price of newsprint will remain at $50 per ton for 1939. This follows announcement by the Great Northern Paper Co., that its price of $48 per ton will be continued through 1939.

Improvement in some grades of sulphite paper is reported for the week. The announcement of the Hammermill Paper Co., of a reduction of $10 per ton on sulphite bonds and ledgers, and $5 a ton on sulphite mimeograph paper, was more or less of a surprise to some in the trade. In view of the uptrend in production costs and the improvement in demand, a general reduction in present prices is not expected. This reduction is commonly considered in the trade as a concession to meet competition, and up to date no other changes from representative quoted market prices have been reported.

### Mechanical Pulp

The uptrend in the demand for mechanical pulp is reported as continuing with no important changes reported in the market situation this week. Prices remain quite firm and unchanged at prevailing levels.

### Chemical Pulp

More inquiries are reported in the trade for chemical pulp and demand continues slowly upward, with the current price trend reported as downward. Quotations on standard grades of domestic and foreign sulphite pulps continue unchanged. The prevailing price of prime bleached sulphite continues at $47 per ton, on dock, Atlantic, Gulf and West Coast ports.

Price reductions in many grades of kraft pulps is reported this week. Domestic kraft is currently quoted at from $25 to $36 per ton, f.o.b., pulp mill; No. 1 kraft at $31 and bleached kraft pulp at from $45 to $55 per ton, on dock, Atlantic ports. The price of bleached soda pulp is unchanged at $51 per ton, delivered.

Canadian producers of rayon pulp announced this week a reduction of $5 in the price of rayon pulp, which is currently quoted at $80 per ton, compared with $97.50 per ton for the early part of 1938, and with $72.50 per ton in 1937.

### Old Rope and Bagging

The old rope market reports prices as steady under a rather light demand. Similar conditions prevail in old bagging. No change in prices is reported for this week.

### Rags

The domestic rag market continues relatively steady with firmness reported in the higher grades of new rags, due to the limited supply being accumulated. Prices continue unchanged, with the exception of No. 1 new white cuttings, which are higher this week and currently quoted at 7:00 and 7:25. The foreign rag market is inactive and nominal prices prevail.

### Old Waste Paper

The old waste paper market continues firm with prices holding at prevailing representative market quotations, with no important changes reported this week.

### Twine

No important change in demand or prices is reported in the twine market. Prices hold relatively firm under indications of an improved demand. No change in quotations in hard or soft fiber twines have been reported during the current week.

## IMPORTS OF PAPER AND PAPER STOCKS

*(Continued from page 52)*

M. Sone, *Nordvard,* Stugsund, 600 bls. dry pulp, 100 tons.
Bulkley Dunton Pulp Co., Inc., *Nordvard,* ——— 2530 bls. sulphite, 508 tons, 1975 bls. sulphate, 385 tons.
Cellulose Sales Co., Inc., *Nordvard,* Sundsvall, 625 bls. sulphite, 125 tons, 900 bls. sulphate, 150 tons.
Parsons & Whittemore, Inc., *Nordvard,* Sundsvall, 373 rolls newsprint.
Nolan Bownall & Co., Inc., *Nordvard,* Sundsvall, 104 rolls newsprint.
M. Sone, *Nordvard,* Sundsvall, 1000 bls. mechanical pulp, 200 tons.
———, *Nordvard,* Hernosand, 930 bls. sulphate, 155 tons.
E. M. Sergeant Pulp & Chemical Co., *Nordvard,* Hernosand, 600 bls. sulphate, 100 tons.
———, *Nordvard,* Obbola, 3500 bls. sulphate, 500 tons.
W. H. Masson, *Quaker City,* Glasgow, 56 bls. wastepaper.
———, *Quaker City,* Dublin, 453 bls. waste paper.
———, *Black Tern,* Rotterdam, 464 bls. wood pulp, 104 tons.
Bankers Trust Co., *Clara,* Trieste, 8060 bls. woodpulp.

# Miscellaneous Markets

Office of the PAPER TRADE JOURNAL,
Wednesday, November 9, 1938.

BLANC FIXE—Quotations on blanc fixe continue firm under a good demand and conform to prevailing market prices. The pulp is quoted at from $42.50 to $45 per ton, in bulk; the powder is offered at from 3½ cents to 3¾ cents per pound, in barrels, at works.

BLEACHING POWDER—The prices of bleaching powder remain firm and conform to prevailing market levels. Bleaching powder is quoted at from $2 to $2.25 per 100 pounds, in drums, at works.

CASEIN—The demand for casein is reported fair for the current week. Standard quality domestic casein, 20-30 mesh, is quoted at from 8 to 8½ cents per pound; 80-100 mesh at 9 cents per pound; all prices in bags, car lot quantities.

CAUSTIC SODA—Quotations on caustic soda continue firm and conform to prevailing market prices. Solid caustic soda is quoted at from $2.10 to $2.30 per 100 pounds; flake and ground at from $2.50 to $2.70 per 100 pounds, in drums, at works.

CHINA CLAY—Quotations on china clay continue firm and conform to prevailing market prices. Imported clay is quoted at from $14.50 to $25 per ton, ship side. Domestic filler clay is quoted at from $6.50 to $12 per ton; coating clay at from $11 to $22 per ton, at mines.

CHLORINE—Quotations on chlorine are firm and unchanged at prevailing market prices. Chlorine is quoted at $2.15 per 100 pounds, in single-unit tank cars, f.o.b., works.

ROSIN—The demand for rosin is reported fair for this week. "G" gum rosin is quoted at $5; "FF" wood rosin at $4.80 per 280 pounds, gross weight, in barrels, at Savannah. Seventy per cent gum rosin size is quoted at $2.75 per 100 pounds, f.o.b., shipping point.

SALT CAKE—Quotations on salt cake are firm and conform to prevailing market prices. Quotations range at from $12 to $13.50 per ton; chrome salt cake at from $11 to $12 per ton, f.o.b., shipping point. Imported salt cake is quoted at from $14.50 to $15 per ton, Gulf or Atlantic Seaboard, on dock.

SODA ASH—Quotations on soda ash are firm under an improved demand and continue unchanged at prevailing market prices. Quotations on soda ash in car lots, at works, per 100 pounds, are as follows: in bulk, $.90; in bags, $1.05; and in barrels, $1.35.

STARCH—The demand for corn starch continues good and prices are firm. Globe pearl is quoted at $2.40 per 100 pounds, in bags, and at $2.65 in barrels. Special paper starch is quoted at $2.50 per 100 pounds, in bags, at $2.75 in barrels; all prices in car lots, f.o.b., Chicago.

SULPHATE OF ALUMINA—Quotations in sulphate of alumina remain firm and contracts are renewed at prevailing market prices. The commercial grades are quoted at $1.15; iron free at $1.30 per 100 pounds, in barrels, car lot quantities, f.o.b., works.

SULPHUR—The demand for sulphur continues good for the current week. Annual contracts are quoted at $16 per long ton, f.o.b., mines. Spot and nearby car lots are quoted at $19 per ton.

TALC—The prices of talc continue firm and unchanged at representative quoted market prices. Domestic talc is offered at from $15 to $18 per ton, Eastern mines. Imported talc is quoted at from $25 to $40 per ton, on dock.

# Market Quotations

## Paper

**(Delivered New York)**

| | | | |
|---|---|---|---|
| **News, per ton—** | | | |
| Roll, contract | $50.00 | @ | — |
| Sheets | 58.00 | @ | — |
| **Kraft—per cwt.—Delivered Zone A** | | | |
| No. 1 Northern | $4.75 | @ | $5.25 |
| Superstandard | 4.12½ | @ | 4.62½ |
| Northern Standard Wrapping | 4.00 | @ | — |
| Standard Wrapping | 3.50 | @ | — |
| **Tissues—Per Ream—Carlots** | | | |
| White No. 1 | .92½ | @ | — |
| White No. 1 M. G. | .90 | @ | — |
| White No. 1½ | .67½ | @ | — |
| White No. 2 | .60 | @ | — |
| Anti-Tarnish M. G. | .75 | @ | — |
| Colored | .67½ | @ | — |
| Kraft | .75 | @ | — |
| Manila | .60 | @ | — |
| Unbl. Toilet, 1 M. | 3.20 | @ | — |
| Bleached Toilet | 5.26 | @ | — |
| **Paper Towels—** | | | |
| Unbleached | 1.80 | @ | — |
| Bleached | 2.10 | @ | — |
| **Manila—per cwt.—C. l. f. a.** | | | |
| No. 1 Jute | $8.25 | @ | $9.75 |
| No. 2 Jute | 7.50 | @ | 9.00 |
| No. 1 Manila Wrapping, 35 lb. | 5.00 | @ | — |
| No. 2 Manila Wrapping, 35 lb. | 4.75 | @ | — |
| **Boards, per ton—** | | | |
| News | $27.50 | @ | $30.00 |
| Chip | 27.50 | @ | 30.00 |
| Sgl. Mla. Lt. Chip. | 42.50 | @ | — |
| Jute Lined Chip. | 42.50 | @ | 45.00 |
| White Pat. Coated. | 55.00 | @ | 57.50 |
| Kraft Liners | 42.50 | @ | 50.00 |
| Binders Boards | 71.00 | @ | 77.00 |

The following are representative of distributors' resale prices:—

**Rag Content Bonds and Ledgers—White, Assorted Items, Delivered in Zone 1:**

| | Bonds | Ledgers |
|---|---|---|
| 100% Rag Ext. No. 1. | $39.10@$46.00 | $40.25@$47.25 |
| 100% Rag | 31.05@ 36.50 | 32.20@ 37.75 |
| 85% Rag | ..... | 29.90@ 35.00 |
| 75% Rag | 23.60@ 27.75 | 24.75@ 29.00 |
| 65% Rag | ..... | 21.65@ 26.25 |
| 50% Rag | 17.55@ 21.50 | 18.70@ 22.75 |
| 25% Rag | 14.65@ 17.75 | 15.80@ 19.25 |

Colors at $1.00 cwt. extra

**Sulphite Bonds and Ledgers—White, Assorted Items, Delivered in Zone 1:**

| | Bonds | Ledgers |
|---|---|---|
| No. 1 | $8.80@$10.75 | $9.95@$12.00 |
| No. 2 | 7.90@ 9.50 | 9.05@ 11.00 |
| No. 4 | 7.00@ 8.50 | 8.20@ 10.00 |

Colors $1.00 cwt. extra.

**Free Sheet Book Papers—White, Cased Paper, Delivered in Zone 1:**

| | | |
|---|---|---|
| No. 1 Glossy Coated | $10.80 | @$12.25 |
| No. 2 Glossy Coated | 9.25 | @ 10.50 |
| No. 3 Glossy Coated | 8.15 | @ 9.25 |
| No. 4 Glossy Coated | 7.65 | @ 8.75 |
| No. 1 Antique (watermarked) | 7.65 | @ 8.75 |
| No. 2 Offset | 7.00 | @ 8.00 |
| A Grade E. F. | 6.80 | @ 7.75 |
| A Grade S. & S. C. | 7.05 | @ 8.00 |
| B Grade E. F. | 6.25 | @ 7.25 |
| B Grade S. & S. C. | 6.50 | @ 7.50 |
| C Grade E. F. | 6.00 | @ 7.00 |
| C Grade S. & S. C. | 6.25 | @ 7.25 |
| D Grade E. F. | 5.70 | @ 6.75 |
| D Grade S. & S. C. | 5.95 | @ 7.00 |

Ivory & India at $.50 cwt. extra.

## Mechanical Pulp

**(On Dock, Atlantic Ports)**

| | | | |
|---|---|---|---|
| **No. 1 Imported—** | | | |
| Moist | 25.00 | @ | 28.00 |
| Dry | 25.00 | @ | 28.00 |

**(Delivered)**

| | | | |
|---|---|---|---|
| **No. 1 Domestic and** | | | |
| Canadian | 29.00 | @ | 33.00 |

## Chemical Pulp

**(On Dock, Atlantic, Gulf and West Coast Ports)**

| | | | |
|---|---|---|---|
| **Bleached Sulphite (Domestic and Foreign)—** | | | |
| Prime Bleached Sulphite | 2.35 | @ | 2.75 |
| **Prime Qualities—** | | | |
| Easy-Bleaching Sulphite | 1.90 | @ | 2.10 |
| Strong Unbleached Sulphite | 1.80 | @ | 2.00 |

**(On Dock, Atlantic Ports)**

| | | | |
|---|---|---|---|
| Kraft Bleached | 2.25 | @ | 2.75 |
| Kraft Light & Strong | 1.75 | @ | 1.90 |
| Kraft No. 1 | 1.55 | @ | 1.85 |
| Kraft No. 2 | 1.50 | @ | 1.55 |

**(F.o.b. Pulp Mill)**

| | | | |
|---|---|---|---|
| Kraft Domestic | 1.25 | @ | 1.80 |

**(Delivered)**

| | | | |
|---|---|---|---|
| Soda Bleached | 2.55 | @ | — |

**Add 50 cents per short ton, dock charges for Albany; $2.50 for Lake Ports East and $3.50 for Lake Ports West of Mackinac Straits.**

## Domestic Rags

**New Rags**

**(Prices to Mill f. o. b. N. Y.)**

| | | | |
|---|---|---|---|
| **Shirt Cuttings—** | | | |
| New White, No. 1. | 7.00 | @ | 7.25 |
| Silesias No. 1 | 4.00 | @ | 4.25 |
| New Unbleached. | 6.75 | @ | 7.00 |
| Blue Overall | 5.25 | @ | 5.50 |
| Fancy | 2.10 | @ | 2.25 |
| Washables | 1.60 | @ | 1.70 |
| Mixed Khaki Cuttings | 3.25 | @ | 3.75 |
| O. D. Khaki Cuttings | 4.00 | @ | 4.25 |

**Old Rags**

| | | | |
|---|---|---|---|
| **White, No. 1—** | | | |
| Repacked | 3.15 | @ | 3.40 |
| Miscellaneous | 2.60 | @ | 2.75 |
| **White, No. 2—** | | | |
| Repacked | 1.90 | @ | 2.10 |
| Miscellaneous | 1.50 | @ | 1.60 |
| **Thirds and Blues—** | | | |
| Repacked | 1.40 | @ | 1.80 |
| Miscellaneous | 1.25 | @ | 1.30 |
| **Roofing Rags—** | | | |
| No. 1 | 1.10 | @ | 1.20 |
| No. 2 | .95 | @ | 1.00 |
| No. 3 (bagging) | .85 | @ | .90 |
| No. 4 | .65 | @ | .70 |
| No. 5A | .65 | @ | .70 |

## Foreign Rags

**New Rags**

| | | | |
|---|---|---|---|
| New Dark Cuttings | 2.25 | @ | 2.40 |
| New Mixed Cuttings | 2.00 | @ | 2.20 |
| New Light Silesias | 5.50 | @ | 5.75 |
| Light Flannelettes | 5.50 | @ | 5.75 |
| New White Cuttings | 7.00 | @ | 7.50 |
| New Light Oxford | 4.00 | @ | 4.50 |
| New Light Prints | 3.00 | @ | 3.25 |

**Old Rags**

| | | | |
|---|---|---|---|
| No. 1 White Linens | 7.50 | @ | 8.50 |
| No. 2 White Linens | 6.50 | @ | 7.50 |
| No. 3 White Linens | 4.50 | @ | — |

# J. Andersen & Co.

*Selling Agents*

21 East 40th Street

New York

## CHEMICAL & MECHANICAL PULP

**Kraft Pulp**

BERGVIK OCH ALA NYA AKTIEBOLAG
Söderhamn, Sweden
KALIX TRÄINDUSTRI AKTIEBOLAG
Vanaförden, Sweden
MUNKSUNDS AKTIEBOLAG
Munksund, Sweden
MENSJÖ CELLULOSA A.-B.
Sprängsviken, Sweden

**Bleached Sulphite**

KELLNER-PARRINGTON PAPER PULP CO., LTD.
Sarpsborg, Norway
Edsvalla, Sweden
Hallein & Vllach, Austria

**Unbleached Sulphite**

AKTIESELSKABET GREAKER CELLULOSEFABRIK
Greaker, Norway
BERGVIK OCH ALA NYA AKTIEBOLAG
Söderhamn, Sweden
CELLULOSEFABRIKS A.-G.
Bruntava, Czecho-Slovakia
SVANÖ AKTIEBOLAG
Svanö, Sweden

# THE DRAPER FELTS

All kinds and styles of Felts for all kinds and styles of Papers.

Write us about your Felt problems and let us help you reduce your Felt Costs—we will call anywhere at any time.

**DRAPER BROS. COMPANY**

CANTON, MASS.

***Woolen manufacturers since 1856***

# Mundt

**Perforated Screens**

**For Pulp and Paper Mills**

**Steel, Copper, Brass**
**Bronze, Monel Metal**
**and Other Alloys**
**Punched for Centrifugal**
**and Rotary Screens,**
**Pulp Washers, Drainer**
**Bottoms, Filter Plates, etc.**

**Charles Mundt & Sons**
**67 Fairmount Ave. Jersey City, N. J.**

# ENGLISH ECCO CLAYS CLAYS

ECCO CLAYS
TRADE MARK

**UNIFORM • SUPERIOR • DEPENDABLE**

**English China Clays Sales Corporation**
**551 Fifth Avenue, New York City**

| | | | |
|---|---|---|---|
| No. 4 White Linens | 2.25 | @ | 3.25 |
| No. 1 White Cotton | 4.25 | @ | 4.75 |
| No. 2 White Cotton | 3.25 | @ | 3.75 |
| No. 3 White Cotton | 2.50 | @ | 3.00 |
| No. 4 White Cotton | 1.90 | @ | 2.20 |
| Extra Light Prints | 2.00 | @ | 2.40 |
| Ord. Light Prints | 1.75 | @ | 2.15 |
| Med. Light Prints | 1.55 | @ | 1.95 |
| Dutch Blue Cottons | 2.25 | @ | 2.50 |
| Frenca Blue Linens | 3.00 | @ | — |
| Checks and Blues | 2.00 | @ | — |
| Linsey Garments | 1.90 | @ | 2.00 |
| Dark Cottons | 1.50 | @ | 1.60 |
| Old Shopperies | 1.30 | @ | 1.45 |
| New Shopperies | 1.45 | @ | 1.50 |
| French Blues | 2.25 | @ | 2.50 |

### Old Rope and Bagging

(Prices to Mill, f. o. b. N. Y.)

| | | | |
|---|---|---|---|
| Gunny No. 1— | | | |
| Foreign | 2.40 | @ | 2.50 |
| Domestic | 2.25 | @ | 2.35 |
| Wool Tares, light | 1.80 | @ | 1.90 |
| Wool Tares, heavy | 1.90 | @ | 2.00 |
| Bright Bagging | 1.70 | @ | 1.80 |
| Manila Rope— | | | |
| Foreign | 2.90 | @ | 3.00 |
| Domestic | 2.50 | @ | 2.75 |
| Jute Threads | 2.75 | @ | 3.00 |
| Sisal Strings | 1.50 | @ | 1.60 |
| Mixed Strings | .60 | @ | .70 |

### Old Waste Papers

(F. o. b. New York)

| | | | |
|---|---|---|---|
| Shavings— | | | |
| White Envelope Cuttings | 2.65 | @ | 2.70 |
| Ordinary Hard White No. 1 | 1.90 | @ | 2.00 |
| Soft White No. 1 | 1.75 | @ | 1.80 |
| Soft White Extra | 2.25 | @ | 2.40 |
| Flat Stock— | | | |
| Stitchless | .80 | @ | .85 |
| Overissue Mag | .70 | @ | .75 |
| Solid Flat Book | .60 | @ | .65 |
| Crumbled No. 1 | .40 | @ | .45 |
| Ledger Stock White | 1.15 | @ | 1.25 |
| Ledger Stock Colored | .65 | @ | .70 |
| New B. B. Chips | .15 | @ | .20 |
| Manila— | | | |
| New Env. Cut | 1.40 | @ | 1.50 |
| New Cuttings | 1.25 | @ | 1.35 |
| Old Kraft Machine— | | | |
| Compressed bales | .65 | @ | .75 |
| News— | | | |
| No. 1 White News | 1.35 | @ | 1.40 |
| Strictly Overissue | .50 | @ | .55 |
| Strictly Folded | .30 | @ | .35 |
| No. 1 Mixed Paper | .15 | @ | .20 |

### Twines

(F. o. b. Mill)

(Soft Fiber)

| | | | |
|---|---|---|---|
| Coarse Polished— | | | |
| India | .11 | @ | .13 |
| White Hemp | .12 | @ | .14 |
| Fine Polished— | | | |
| Fine India | .15 | @ | .17 |
| Unpolished— | | | |
| Box | .08½ | @ | — |
| Paper Makers | .07½ | @ | .08¼ |
| Tube Rope | .09 | @ | .10 |
| Wall Paper | .10 | @ | .11 |
| Wrapping | .11 | @ | .13 |
| Soft Fiber Rope | .09½ | @ | .11¼ |
| Cotton | .15 | @ | .20 |

(Hard Fiber)

| | | | |
|---|---|---|---|
| Medium Java | .09 | @ | .10 |
| Mex. Sisal | .08½ | @ | .09½ |
| Manila | .18 | @ | .25 |

| | | | |
|---|---|---|---|
| Domestic | 2.65 | @ | 2.75 |
| Sisal Rope | 1.50 | @ | 1.60 |
| Mixed Rope | .50 | @ | .75 |
| Transmission Rope | 1.90 | @ | 2.00 |
| Soft Jute Ropes | 1.85 | @ | 2.00 |
| Jute Carpet Threads | .75 | @ | .90 |
| Gunny Bagging— | | | |
| Foreign | 2.25 | @ | — |
| Domestic | 2.00 | @ | — |
| Bleachery Burlap | 3.25 | @ | 3.62½ |
| Scrap Burlap— | | | |
| Foreign | 1.60 | @ | 1.85 |
| Domestic | 1.40 | @ | 1.55 |
| Scrap Sisal | 1.25 | @ | 1.50 |
| Scrap Sisal for Shredding | 1.75 | @ | 1.90 |
| Wool Tares, Heavy | 1.65 | @ | 1.85 |
| New Burlap Cuttings | 2.00 | @ | 2.25 |
| Aust. Wool Pouches | 2.75 | @ | 3.00 |
| Heavy baling bagging | 1.85 | @ | 2.00 |
| Paper Mill Bagging | 1.00 | @ | 1.15 |
| No. 2 Bagging | .55 | @ | .75 |

### Domestic Rags (New)

(F. o. b. Boston)

| | | | |
|---|---|---|---|
| Shirt Cuttings— | | | |
| New Light Prints | .03¾ | @ | .03½ |
| New White No. 1 | .06¾ | @ | .07 |
| New Light Flannelettes | .04¼ | @ | .04¾ |
| Silesias No. 1 | .04¼ | @ | .04½ |
| New Black Silesias | .03¾ | @ | .04 |
| Silesias No. 1 | | | |
| Soft Unbleached | 6.50 | @ | 7.00 |
| Blue Cheviots | .05 | @ | .05¼ |
| Fancy | .03 | @ | .03¼ |
| Washable | .02¾ | @ | .03 |

| | | | |
|---|---|---|---|
| Cottons—According to grades— | | | |
| Blue Overalls | .04¼ | @ | .04 |
| New Black, soft | .03¾ | @ | .04 |
| Khaki Cuttings | .03¼ | @ | .03¼ |
| O. D. Khaki | .04 | @ | .04¼ |
| Corduroy | .02¾ | @ | .03 |
| New Canvas | .06¾ | @ | .07¼ |
| B.V.D. Cuttings | — | @ | .06¼ |

### Domestic Rags (Old)

(F. o. b. Boston)

| | | | |
|---|---|---|---|
| Canvas | .04½ | @ | — |
| White No. 1— | | | |
| Repacked | — | @ | 2.75 |
| Miscellaneous | 2.50 | @ | 2.75 |
| White No. 2— | | | |
| Repacked | 1.90 | @ | 2.00 |
| Miscellaneous | 2.00 | @ | 2.25 |
| Twos and Blues | 1.75 | @ | 2.00 |
| Old Blue Overalls | 1.50 | @ | — |
| Third and Blues— | | | |
| Repacked | 1.37½ | @ | 1.75 |
| Miscellaneous | 1.25 | @ | 1.43¾ |
| Black Stockings | 3.90 | @ | 4.00 |
| Roofing Stock— | | | |
| No. 1 | 1.00 | @ | 1.10 |
| No. 2 | .75 | @ | .85 |
| No. 3 | .65 | @ | .70 |

### Foreign Rags

(F. o. b. Boston)

| | | | |
|---|---|---|---|
| Dark Cottons | 1.10 | @ | 1.75 |
| Dutch Blues | 2.65 | @ | 2.75 |
| New Checks and Blues | 2.85 | @ | 3.00 |
| Old Fustians | 2.25 | @ | 2.50 |
| Old Linsey Garments | 2.20 | @ | 2.25 |
| New Silesias | 4.75 | @ | — |

## PHILADELPHIA

### Domestic Rags (New)

(Price to Mill, f. o. b. Phila.)

| | | | |
|---|---|---|---|
| Shirt Cuttings— | | | |
| New White, No. 1 | .06 | @ | .06¼ |
| New White, No. 2 | .03½ | @ | .04 |
| Light Silesias | .03½ | @ | .04 |
| Silesias, No. 1 | — | @ | .04½ |
| Black Silesias, soft | — | @ | .03 |
| New Unbleached | .05½ | @ | .06 |
| Washable, No. 1 | .01½ | @ | .01¾ |
| Blue Overall | .04 | @ | .04½ |
| Cottons—According to grades— | | | |
| Washable No. 2 | .01 | @ | .01¼ |
| New Blue | .01 | @ | .01¼ |
| Fancy Percales | — | @ | .02½ |
| New Black Soft | .03 | @ | .03½ |
| New Light Seconds | — | @ | .04½ |
| New Dark Seconds | .50 | @ | .75 |
| Khaki Cuttings— | | | |
| No. 1 O. D. | .03 | @ | .03½ |
| No. 2 Mixed | .02 | @ | .02½ |
| Corduroy | — | @ | .02 |
| New Canvas | .05 | @ | .05½ |
| New Black Mixed | .02½ | @ | .02¾ |

### Domestic Rags (Old)

| | | | |
|---|---|---|---|
| White No. 1— | | | |
| Repacked | 3.00 | @ | 3.25 |
| Miscellaneous | 2.50 | @ | 2.75 |
| Thirds and Blues— | | | |
| Miscellaneous | 1.00 | @ | 1.25 |
| Repacked | 1.50 | @ | 1.75 |
| Black Stockings (Export) | 3.00 | @ | 3.50 |
| Roofing Stock— | | | |
| Foreign No. 1 | — | @ | .95 |
| Domestic No. 1 | — | @ | .95 |
| Domestic No. 2 | — | @ | .85 |
| Roofing Bagging | — | @ | .60 |

### Bagging

(F. o. b. Phila.)

| | | | |
|---|---|---|---|
| Gunny, No. 1— | | | |
| Foreign | 1.75 | @ | 2.00 |
| Domestic | 1.50 | @ | 1.75 |
| Manila Rope | 2.75 | @ | 3.00 |
| Sisal Rope | 1.50 | @ | 1.75 |
| Mixed Rope | .75 | @ | 1.00 |
| Scrap— | | | |
| No. 1 | — | @ | 1.50 |
| No. 2 | 1.00 | @ | 1.25 |
| Wool Tares, heavy | 3.25 | @ | 3.50 |
| Mixed Strings | .75 | @ | 1.00 |
| No. 1 New Light Burlap | 2.50 | @ | 3.00 |
| New Burlap Cuttings | 1.75 | @ | 2.00 |

### Old Papers

(F. o. b. Phila.)

| | | | |
|---|---|---|---|
| Shavings— | | | |
| No. 1 Hard White | 2.25 | @ | 2.30 |
| No. 2 Hard White | 1.90 | @ | 2.00 |
| No. 1 Soft White | 1.75 | @ | 1.80 |
| No. 2 Soft White | 1.30 | @ | 1.40 |
| No. 1 Mixed | .65 | @ | .75 |
| Solid Ledger Stock | 1.45 | @ | 1.50 |
| Ledger Stock, white | 1.15 | @ | 1.20 |
| Ledger Stock, colored | .75 | @ | .80 |
| No. 1 Books, heavy | .60 | @ | .75 |
| Manila Cuttings | 1.45 | @ | 1.50 |
| Print Manila | .40 | @ | .45 |
| Container Manila | .35 | @ | .40 |
| Kraft Paper | .75 | @ | .80 |
| No. 1 Mixed Paper | .20 | @ | .25 |
| Straw Board Chip | .25 | @ | .30 |
| Binders Board Chip | .25 | @ | .30 |
| Corrugated Board | .50 | @ | .55 |
| Overissue News | .40 | @ | .45 |
| Old Newspapers | .35 | @ | .40 |

## BOSTON

### Old Papers

(F. o. b. Boston)

| | | | |
|---|---|---|---|
| Shavings— | | | |
| No. 1 Hard White | 2.25 | @ | 2.50 |
| No. 1 Soft White | 1.85 | @ | 2.15 |
| No. 2 Mixed | .75 | @ | .80 |
| Solid Ledger Books | 1.50 | @ | 1.75 |
| Overissue Ledger Stock | 1.30 | @ | 1.50 |
| Mixed Ledgers | .85 | @ | .90 |
| No. 1 Books, heavy | .65 | @ | .75 |
| No. 1 Books, light | .65 | @ | .75 |
| Crumpled Stitchless Book Stock | .55 | @ | .65 |
| Manila Env. Cuttings | 1.60 | @ | 1.75 |
| Manila Envelope Cuttings, extra quality | 1.90 | @ | 2.00 |
| No. 1 Old Manila | .80 | @ | .90 |
| White Blank News | 1.30 | @ | 1.40 |
| No. 1 Kraft | .90 | @ | — |
| Mixed Papers | .15 | @ | — |
| Print Manila | .45 | @ | .55 |
| Container Manilas | .27½ | @ | — |
| Old Newspapers | .25 | @ | .32½ |
| Paper Wool Strings | .75 | @ | — |
| Overissue News | .45 | @ | .50 |
| Box Board Chips | .20 | @ | .25 |
| Kraft corrugated boxes | .70 | @ | — |
| Kraft corrugated boxes | .65 | @ | .70 |
| Screening Wrappers | .40 | @ | .45 |

### Bagging

(F. o. b. Boston)

| | | | |
|---|---|---|---|
| Manila Rope— | | | |
| Foreign | 2.75 | @ | 2.90 |

## CHICAGO

### Old Papers

(F. o. b. Chicago)

| | | | |
|---|---|---|---|
| Shavings— | | | |
| No. 1 White Envelope Cuttings | 1.80 | @ | 1.90 |
| No. 1 Hard White | 1.70 | @ | 1.80 |
| No. 1 Soft White | 1.50 | @ | — |
| Ledger & Writings | .75 | @ | .80 |
| Solid Books | .45 | @ | .50 |
| Blanks | .90 | @ | — |
| Krafts | .45 | @ | .50 |
| New Kraft Cuts | 1.10 | @ | — |
| Manila Env. Cuts | Nominal | | |
| Ex. No. 1 Manila | Nominal | | |
| Print Manila | Nominal | | |
| Overissue News | .35 | @ | — |
| Old Newspapers— | | | |
| No. 1 Folded News | .25 | @ | .30 |
| No. 1 Mixed Paper | .15 | @ | .30 |
| Roofing Stocks— | | | |
| No. 1 | 1.00 | @ | 1.05 |
| No. 2 | .85 | @ | — |

## TORONTO

### Paper

### Bonds and Ledgers

Delivered

| | | | |
|---|---|---|---|
| No. 1 White | .36½ | @ | — |
| No. 1 Tints | .37½ | @ | — |
| No. 2 White | .26½ | @ | — |
| No. 2 Tints | .27½ | @ | — |
| No. 4 White | 15.50 | @ | 16.50 |
| No. 4 Tints | 16.50 | @ | — |
| No. 5 Bond—White | 11.25 | @ | — |
| No. 5 Bond—Tints | 12.25 | @ | — |
| No. 5 Bond—Golden Rod | 12.75 | @ | — |
| No. 5 Ledger—White | 11.25 | @ | — |
| No. 5 Ledger—Tints | 11.25 | @ | — |
| No. 6 Bond—White | 10.15 | @ | — |
| No. 6 Bond—Tints | 10.65 | @ | — |
| No. 6 Bond—Golden Rod | 12.15 | @ | — |
| No. 7 Bond—White | 8.50 | @ | — |
| No. 7 Bond—Tints | 9.00 | @ | — |
| No. 7 Bond—Golden Rod | 10.50 | @ | — |
| Book— | | | |
| No. 1 M. F. | 7.35 | @ | — |
| No. 2 M. F. | 6.85 | @ | — |
| No. 3 M. F. | 5.60 | @ | — |
| No. 1 S. C. | 7.60 | @ | — |
| No. 2 S. C. | 7.10 | @ | — |
| No. 3 S. C. | 6.10 | @ | 6.35 |
| No. 1 Coated Book and Litho | 12.50 | @ | — |
| No. 2 Coated Book and Litho | 11.00 | @ | — |
| No. 3 Coated Book and Litho | 10.00 | @ | — |
| Coated tinted | 13.50 | @ | — |
| Wrapping—delivered— | | | |
| Rag Brown | 4.85 | @ | 5.25 |
| White Wrap | 4.00 | @ | — |
| "B" Manila | 4.90 | @ | 6.15 |
| No. 1 Manila | 5.50 | @ | 6.90 |
| Fiber | 5.50 | @ | 6.90 |
| Kraft No. 2 | 5.50 | @ | 6.90 |

(F. o. b. Cars, Toronto)

| | | | |
|---|---|---|---|
| News per ton— | | | |
| Rolls (contract) | $46.00 | @ | — |
| Sheets | 54.00 | @ | — |

### Pulp

| | | | |
|---|---|---|---|
| Ground wood | 29.00 | @ | — |
| Unbleached Sulphite | 49.00 | @ | — |
| Kraft | 50.00 | @ | — |
| Soda | 54.00 | @ | — |

### Old Waste Paper

(In carload lots, f. o. b. Toronto)

| | | | |
|---|---|---|---|
| Shavings— | | | |
| White Env. Cut | 2.25 | @ | — |
| Soft White | 2.15 | @ | — |
| White Blk. News | 1.25 | @ | — |
| Book and Ledger— | | | |
| Flat Magazine and Book Stock (old) | .80 | @ | — |
| Light and Crumpled Book Stock | .70 | @ | — |
| Ledgers and Writings | 1.10 | @ | — |
| Manilas— | | | |
| New Manila Cut | 1.35 | @ | — |
| Printed Manilas | .45 | @ | — |
| Kraft | .95 | @ | — |
| News and Scrap— | | | |
| Strictly Overissue | .50 | @ | — |
| Strictly Folded | .45 | @ | — |
| No. 1 Mixed Paper | .30 | @ | — |

### Domestic Rags

(Price to mills, f. o. b. Toronto)

| | | | |
|---|---|---|---|
| No. 1 White Shirt Cuttings | .06¼ | @ | .07 |
| Fancy Shirt Cuttings | .02¼ | @ | .03½ |